

ANZHNCS
ASM 2017

Final Program



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AUSTRALIAN AND NEW ZEALAND
HEAD & NECK CANCER SOCIETY
19TH ANNUAL SCIENTIFIC MEETING

12 – 14 October 2017

Brisbane Convention & Exhibition Centre
Brisbane, Australia

www.anzhnccs.org

#anzhnccs2017



AUSTRALIAN AND NEW ZEALAND
HEAD & NECK
CANCER SOCIETY

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Welcome Letter

Dear Colleagues,

It is my pleasure to welcome you to the ANZHNCS Annual Scientific Meeting here in Brisbane. The organising committee and I are proud to present what we believe will be a stimulating program with a multitude of talks that are likely to challenge our day to day practice. Questions that will seek to improve outcomes, research that answers these questions and inquisitive minds that search for these answers – these are the goals of our program for this year.

Professor Liz Ward will do us the honour of delivering the Chris O'Brien Oration, and will no doubt be an inspiring voice for the clinicians and researchers in all of us. We also welcome our five international speakers – Professor Quynh-Thu Le, Dr Luc Morris, Dr Jacqueline Langius, Dr David Rosenthal and Dr Anil Chaturvedi. Not only will we be hearing from them in keynote presentations, but also in our focused debates, breakfast session and tumour boards.

Our industry sponsors have been very generous, and we thank them for their involvement – delegates will have the opportunity to meet with them during the breaks, and also to win a prize for visiting all of the exhibitors. We once again welcome the attendance of the team from Beyond Five, who continue to support cancer survivors through and beyond the five years following treatment.

We look forward to seeing you at the ANZHNCS ASM 2017, and hope you enjoy the program as much as we will.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Sommerville'.

Dr Ryan Sommerville FRACS
ENT, Head and Neck, Skull Base Surgeon
Convener 2017 ANZHNCS ASM



Australian and New Zealand Head & Neck Cancer Society (ANZHNCS)

Early in 1998, a number of head and neck oncologists from the disciplines of surgery, radiation oncology and medical oncology met in Sydney to discuss the feasibility of establishing a multidisciplinary head and neck cancer society. A working party was formed and following a number of meetings, invitations were sent to individuals in these three specialties to become foundation members of the Australian and New Zealand Head & Neck Society.

The initial business meeting was held on December 9, 1998 and at that time there were 60 foundation members. The Society adopted as its Constitution the Model Rules for Associations published by the Department of Fair Trading in NSW and the members agreed that their principal objectives would be to promote the practice of head and neck oncology, to educate medical colleagues and the public about our specialty, to foster research and to seek optimal treatment outcomes for our patients.

Membership

Membership of the Australian and New Zealand Head and Neck Cancer Society gives multiple opportunities to keep up with the latest clinical and research developments in the field of head and neck oncology as well as access to local and international leading oncological surgeons for specific clinical case questions and issues. Members are eligible for reduced rates to the Annual Scientific Meeting. For further information about the Society and becoming a member visit www.anzhnscs.org

2017 Organising Committee

Convener: Dr Ryan Sommerville FRACS - ENT, Head & Neck, Skull Base Surgeon, Brisbane

Scientific Conveners: Dr Bena Cartmill - Speech Pathologist (Oncology) and Health Research Fellow, Brisbane
Dr Benjamin Chua - Radiation Oncologist, Brisbane

Members of the ANZHNCS Executive Committee

President: Associate Professor Martin Batstone - Oral & Maxillofacial Surgeon, Brisbane

Vice President: Associate Professor Julia Maclean - Speech Pathologist, Sydney

Secretary: Dr Tim Iseli - Otolaryngologist Head & Neck Surgeon, Melbourne

Treasurer: Dr Michael Collins - Radiation Oncologist, Townsville

Executive: Dr John Chaplin - Otolaryngologist Head & Neck Surgeon, Auckland

Dr Richard Lewis - Otolaryngologist Head & Neck Surgeon, Perth

Dr Nicholas Marshall - Plastic Surgeon, Adelaide

Dr Tsien Fua - Radiation Oncologist, Victoria

Dr Brian Stein - Medical Oncologist, Adelaide

Dr James Bowman - Otolaryngologist Head & Neck Surgeon, Brisbane

Dr Kerwin Shannon - Head & Neck Surgeon, Sydney

Immediate Past President: Dr Kerwin Shannon - Head & Neck Surgeon, Sydney



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AUSTRALIAN AND NEW ZEALAND
HEAD & NECK CANCER SOCIETY
19TH ANNUAL SCIENTIFIC MEETING

ANZHNCS
ASM 2017

Sponsors and Exhibitors *(as at time of printing)*

Sponsors

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Educational Grant Sponsor:



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Keynote Speakers *(correct at time of printing)*



Professor Quynh-Thu Le
Radiation Oncologist, Stanford University, USA

Quynh-Thu Le, MD received her medical school and radiation oncology training at University of California, San Francisco. In 1997, she joined Stanford, where she holds the Katharine Dexter McCormick & Stanley Memorial Professorship and is Chair of the Radiation Oncology Department.

Her research focuses on translating laboratory findings to the clinic and vice versa in head and neck cancer (HNC), specifically in tumor hypoxia, Galectin-1, and salivary gland stem cells.

Clinically, she has led multicenter phase II and III clinical trials, testing the addition of novel drugs as radiosensitizer or radioprotector with chemoradiotherapy in HNC. She has received grant support from ASCO, ASTRO as well as R01 and R21 grants from the NIH. She was inducted into the Fellowship of the American College of Radiology (FACR), the American Society of Therapeutic Radiology and Oncology (ASTRO) and the Institute of Medicine/National Academy of Medicine (IOM/NAM). She was also honored with the Caltech Distinguished Alumni Award in 2015.

Administratively, she is the Co-Director of the Radiation Biology Program at the Stanford Cancer Institute, Chair of the NRG Head and Neck Disease Site Committee, ARS President-elect and a member of ASTRO Nominating Committee. She also serves on many other national committees and as a reviewer for several cancer related journals.

The attendance of the radiation oncology keynote speaker for the meeting, which for this year is going to be Professor Le, has been made possible by an unrestricted educational grant to the ANZHCNS from Varian Medical Systems.

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Dr Luc Morris
Head and Neck Surgeon, Memorial Sloan Kettering Cancer Centre, USA

Dr Luc Morris is a head and neck cancer surgeon and translational researcher. Working at Memorial Sloan Kettering (MSK),

a large freestanding cancer center in New York City, he has a clinical practice focused on patients with head and neck and thyroid tumors, and he is proud to be part of a superb multi-disciplinary team. He also leads a laboratory studying head and neck cancer molecular genetics. He is the head and neck cancer lead for MSK's Center for Molecular Oncology, and an Associate Director of MSK's Immunogenomics Precision Oncology Platform, a novel translational platform that seeks to bring multi-dimensional genomics analyses to advance cancer immunotherapy.



Dr Anil Chaturvedi
Senior Investigator, Division of Cancer Epidemiology and Genetics, National Cancer Institute, National Institutes of Health, USA

Dr Chaturvedi earned a degree in veterinary medicine (1999) from the Andhra Pradesh Agricultural University, India and an M.P.H. (2002) and Ph.D. (2004) in epidemiology from Tulane University. He joined IIB as a postdoctoral fellow in 2005, became a research fellow in 2007, was appointed as a tenure-track investigator in 2009, and was awarded scientific tenure and promoted to senior investigator in November 2016. Dr Chaturvedi studies the molecular epidemiology of two common cancers – head and neck cancers and lung cancers. His work addresses research questions on etiology and natural history that have high potential for translation into efforts for screening and early detection of head and neck cancers and lung cancers.

The attendance of Dr Chaturvedi has been made possible by an unrestricted educational grant to the ANZHCNS by the SA Foundation of Otorhinolaryngology.



Dr Jacqueline Languis
Dietitian-Researcher, VU University Medical Centre, Amsterdam

Dr Jacqueline Languis is dietitian-researcher at the VU University Medical Centre Amsterdam and head of the Research and

Innovation Centre Nutrition and Dietetics of The Hague University of Applied Sciences. Dr Languis specialises in nutritional status and dietary treatment in oncology patients, and specifically head and neck cancer patients. Her research focuses on the causes and identification of malnutrition and the prognostic impact of low nutritional status. As project leader of the Dutch Malnutrition Steering Group, she implemented screening of malnutrition in preoperative patients in all Dutch hospitals, and is a member of the Nutritional Assessment Platform and the special interest group in cachexia and sarcopenia of ESPEN.

Keynote Speakers (cont'd)



Dr David Rosenthal

Section Chief, Department of Head and Neck, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, USA

Director, Department of Head and Neck Translational Research, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, USA

Dr Rosenthal is a radiation oncologist specialising in head and neck oncology. He has demonstrated clinical and research interest in improving the outcomes for patients with head and neck cancers including optimizing cure, functionality, and survivorship using all modalities available, and working through clinical trials to develop and evaluate new therapies. He has long been and continues to be involved in many phase I-III clinical trials involving radiation therapy (including proton therapy), surgery, and systemic therapies. He also has a strong interest in the evaluation and reduction of acute and late treatment related toxicity, its management, prevention, and patient reported outcomes with the goals of improved functionality and survivorship.

2017 ANZHNCS Chris O'Brien Orator



Professor Liz Ward

Professor, Centre for Functioning and Health Research (CFAHR) Queensland Health and Professor, School of Health and Rehabilitation Sciences, The University of Queensland

Liz is the Professor of the Centre for Functioning and Health Research (CFAHR) in Queensland Health and Professor in the School of Health and Rehabilitation Sciences at The University of Queensland. Professor Ward is a leading international researcher with over 250 publications. Her primary research interest is improving swallowing and voice/communication outcomes for patients undergoing Head and Neck Cancer (HNC) management and has been an invited speaker on this topic in over 20 countries. In the past two decades, Professor Ward has been part of research conducted by national and international multidisciplinary teams which has led to many enhancements in HNC care through: improved understanding of early acute and long term side effects of treatment; implementing a range of telepractice models to enhance patient services and support; revealing greater insights into patient and carer survivorship needs, and; establishing enhanced rehabilitation opportunities for swallowing, speech and tracheoesophageal voice. Professor Ward has over 35 past/current PhD students who are helping to progress the knowledge base of HNC care and changing practice for the future. Professor Ward is the editor of the textbook used extensively throughout international allied health training programs titled *Head and Neck Cancer: Treatment rehabilitation and outcomes* (second edition in 2014).

Chris O'Brien Oration

Chris O'Brien

Christopher O'Brien, A.O. graduated in Medicine from the University of Sydney in 1976 and then completed his residency and surgical training at Royal Prince Alfred Hospital (RPAH). He then completed clinical fellowships in head and neck surgery and oncology in England and the United States and, in 1987, returned to Australia, where he joined the staff of RPAH as a consultant head and neck surgeon. There he contributed to the expansion of the clinical service, making it one of the largest in the country. He also established a comprehensive head and neck database, a basic research program and an international clinical fellowship program under the umbrella of the Sydney Head and Neck Cancer Institute, which he founded in 2002.

He had authored more than 100 scientific papers and 17 book chapters and had been honoured with invitations to many countries and institutions as a Visiting Professor and guest lecturer, including invitations to give numerous prestigious named lectures: the Hayes Martin Lecture in Washington in 2004, the Eugene Myers International Lecture in Los Angeles in 2005, the Inaugural Jatin P. Shah Lecture in Prague in 2006, and the Semon Lecture in London in 2006. He was awarded Honorary Fellowship of the Royal College of Surgeons of England in recognition of his contribution to the training of young British Surgeons.

In 1988, Professor O'Brien founded the Australian and New Zealand Head and Neck Society, a multidisciplinary society comprising surgeons of all disciplines, radiation and medical oncologists, and allied health professionals. He was President of the Society in 2004. Professor O'Brien was also a member of the American Head and Neck Society and was invited to join the Council in 2005.

In 2003, Professor O'Brien became Director of the Sydney Cancer Centre, based at Royal Prince Alfred Hospital and the University of Sydney, whilst maintaining all of his clinical, teaching, and research responsibilities. He had developed a proposal to transform the Sydney Cancer Centre into a world class comprehensive cancer centre, and the centre opened in November 2013, named as The Chris O'Brien Lifecare Centre at RPA.

Unfortunately, in November 2006, Professor O'Brien was diagnosed with a malignant brain tumour and despite receiving treatment, passed away in June 2009. Christopher O'Brien was awarded Officer of the Order of Australia posthumously "For continued service to medicine and to the community through advocacy and fundraising roles for the development of integrated care and clinical research facilities for people with cancer, particularly the establishment of the Lifecare Centre at Royal Prince Alfred Hospital".

Chris O'Brien Oration

In 2010, the Executive of the Australian and New Zealand Head and Neck Cancer Society (ANZHCNCS) decided to dedicate the first lecture of each Annual Scientific Meeting as the Chris O'Brien Oration in celebration of his achievements.

2017 ANZHCNCS Chris O'Brien Orator

Professor Liz Ward

Professor, Centre for Functioning and Health Research (CFAHR) Queensland Health and Professor, School of Health and Rehabilitation Sciences, The University of Queensland

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General Information

Registration

Full registration includes all scientific sessions, breakfast session, final program, lunch, morning and afternoon tea (as applicable), entry to the industry exhibition, welcome reception and meeting dinner.

Day only registration includes all scientific sessions on day/s of attendance, final program, lunch, morning and afternoon tea (as applicable) and entry to the industry exhibition. Access to the breakfast session for Friday 13 October 2017 day registrants only.

Tickets to the welcome reception and meeting dinner are an additional cost for day registrants. Please enquire at the registration desk for availability.

Registration Desk

The registration desk is located in the Boulevard Auditorium Foyer, Boulevard Level, Brisbane Convention & Exhibition Centre on Grey Street.

Opening Hours:

Thursday 12 October 2017:	7:30am – 5:00pm
Friday 13 October 2017:	7:00am – 5:00pm
Saturday 14 October 2017:	7:30am – 12noon

Car Parking

The Brisbane Convention & Exhibition Centre car parks are accessible via Merivale Street and Grey Street. The closest car parks to the Boulevard Level are car park 2 and car park 3.

Directions to the Boulevard Level include:

1. Once parked please make your way towards Russell Walk.
2. Please make your way towards Grey Street via Russell Walk (towards the river).
3. Once on Grey Street please turn right and you will see the entrance to BCEC on Grey Street.
4. Once inside BCEC on Grey you will see two elevators next to the Information Desk. Please make your way to the elevator and press "B" for the Boulevard Level.

For parking rates visit: www.bcec.com.au/visit/car-parking/

Name Badges and Tickets

Your name badge is essential for entry to the meeting rooms and industry exhibition at the Brisbane Convention & Exhibition Centre. Tickets are essential for the breakfast session, welcome reception and meeting dinner.

Speakers' Support

Presenters are required to provide an electronic PowerPoint copy of their presentation to the Speakers Support desk at the meeting at least one hour prior to the commencement of their session. The speakers' support is located in the Arbour Speakers Prep, Arbour Level, Brisbane Convention & Exhibition Centre. A technician will be available at the speaker's support desk one hour prior to the commencement of the first session and during the catering breaks from Thursday 12 October to Saturday 14 October 2017.

Posters

Posters will be displayed in the industry exhibition and will be available for viewing throughout the meeting.

Awards

Best Overall Oral Presentation - Amount \$500.00

Best Overall Poster Presentation - Amount \$500.00

Best Allied Health/Nursing Oral Paper (see ANZHNCS website for application) - Amount \$1,000.00

The above-mentioned prizes will be awarded at the meeting. Entries are assessed during the meeting and then announced in the last session.

Royal Australasian College of Surgeons CPD Points

This educational activity has been approved in the RACS CPD Program. Fellows who participate can claim one point per hour (maximum 18 points) in Maintenance of Knowledge & Skills. RACS CPD Online will be updated at the conclusion of the meeting for RACS Fellows who participate, and have provided their RACS ID when registering.

Certificate of Attendance

Delegates requiring a certificate of attendance should register their request with staff at the registration desk. Certificates will be emailed to these delegates after the conclusion of the meeting.

Internet Access

Free wireless internet access is available at the Brisbane Convention & Exhibition Centre throughout the meeting.

Industry Exhibition

The industry exhibition is located in the Boulevard Auditorium Foyer, Brisbane Convention & Exhibition Centre. Delegates have the opportunity to visit the booths and to view the posters in the program breaks.



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General Information (cont'd)

Meeting Catering

Morning tea, lunch and afternoon tea will be served in the industry exhibition area in the Boulevard Auditorium Foyer, Brisbane Convention & Exhibition Centre.

Dietary Requirements

Please note that the venue is responsible for all catering at the meeting and ANZHNCS/RACS does not inspect or control food preparation areas or attempt to monitor ingredients used. You should contact the venue directly for all special dietary requirements during the event, irrespective of whether details have been provided to ANZHNCS/RACS. If ANZHNCS/RACS requests information about your dietary requirements for a specific event ANZHNCS/RACS will endeavour to forward the information provided to the venue (time permitting). ANZHNCS/RACS will not retain information provided for future events, so you must verify your requirements for each event. Even if information is requested or provided, ANZHNCS/RACS takes no responsibility for ensuring that the venue acknowledges your dietary requirements or that these requirements can be met. In all cases you must verify for yourself that your dietary requirements have been met and ANZHNCS/RACS refutes any and all liability for any failure to adequately provide your special dietary requirements or any consequential damage resulting from such failure.

Photography

During the meeting, the Meeting Organisers will take photographs of the proceedings and attendees. These photographs may be used for the following purposes:

- Projection onsite
- Reporting on the meeting in online and hard copy publications
- Marketing a future meeting, including online and hard copy publications

If you do not wish to be included in a photograph please advise the photographer.

Dress

Scientific Sessions:	Business attire or smart casual
Welcome Reception:	Business attire or smart casual
Meeting Dinner:	Lounge suit/cocktail dress

Official Functions

Welcome Reception

Date: Thursday 12 October 2017, 5:00pm – 7:00pm

Venue: Boulevard Auditorium Foyer
Brisbane Convention & Exhibition Centre

Cost: Included for full registration categories,
bookings essential

Additional tickets: \$75.00. Please enquire at the registration desk for availability.

Dress: Business attire or smart casual.

Network with the Academic Faculty, industry and fellow colleagues whilst celebrating the opening of this important meeting.

Meeting Dinner

Date: Friday 13 October 2017, 7:00pm – 10:30pm

Venue: Boulevard Room
Brisbane Convention & Exhibition Centre

Cost: Included for full registration categories,
bookings essential

Dress: Lounge suit/cocktail dress.

Additional tickets: \$160.00. Please enquire at the registration desk for availability.

Enjoy a three course dinner and entertainment with colleagues and friends.

Business Meetings

ANZHNCS Executive Committee Meeting

(Executive Committee Members Only)

Date: Wednesday 11 October 2017, 5:30pm – 7:30pm

Venue: Arbour Boardroom,
Brisbane Convention & Exhibition Centre

Foundation Board Meeting

(Board Members only)

Date: Thursday 12 October 2017, 12:20pm – 1:20pm

Venue: Meeting Room B1,
Brisbane Convention & Exhibition Centre

Annual General Meeting

(ANZHNCS Members Only)

Date: Friday 13 October 2017, 12:30pm – 1:30pm

Venue: Boulevard Auditorium
Brisbane Convention & Exhibition Centre

12 – 14 October 2017

Brisbane Convention & Exhibition Centre, Brisbane, Australia

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Breakfast Session

Attendance to the breakfast session is complimentary for full registered delegates and for Friday 13 October 2017 day registrants only. However, tickets are essential to attend the breakfast session. Please enquire at the registration desk for availability.

Date: Friday 13 October 2017, 7:30am – 8:30am

Venue: Boulevard Auditorium
Brisbane Convention & Exhibition Centre

A light breakfast will be available from 7:00am,
Boulevard Auditorium Foyer, Brisbane Convention &
Exhibition Centre.

How I treat skull base malignancies – multi-disciplinary case discussions

Chairs: Dr Julie Agnew (Australia) and
Dr June Corry (Australia)

Panel:

Dr Benjamin Chua (Australia)

Dr Matt Foote (Australia)

Dr Mitesh Gandhi (Australia)

Professor Quynh-Thu Le (USA)

Dr David Rosenthal (USA)

Dr Daniel Rowe (Australia)

Convener Dr Ryan Sommerville (Australia)

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Reference: 1. Pardoll DM. *Nat Rev Cancer*. 2012;12:252–264. © 2017 Bristol-Myers Squibb.
BMS Medical Information: 1800 067 567. Bristol-Myers Squibb Australia Pty Ltd, ABN 33 004 333 322,
4 Nexus Court, Mulgrave, VIC 3170. 1506AU1703668. Date of preparation: August 2017. BMSA0460.



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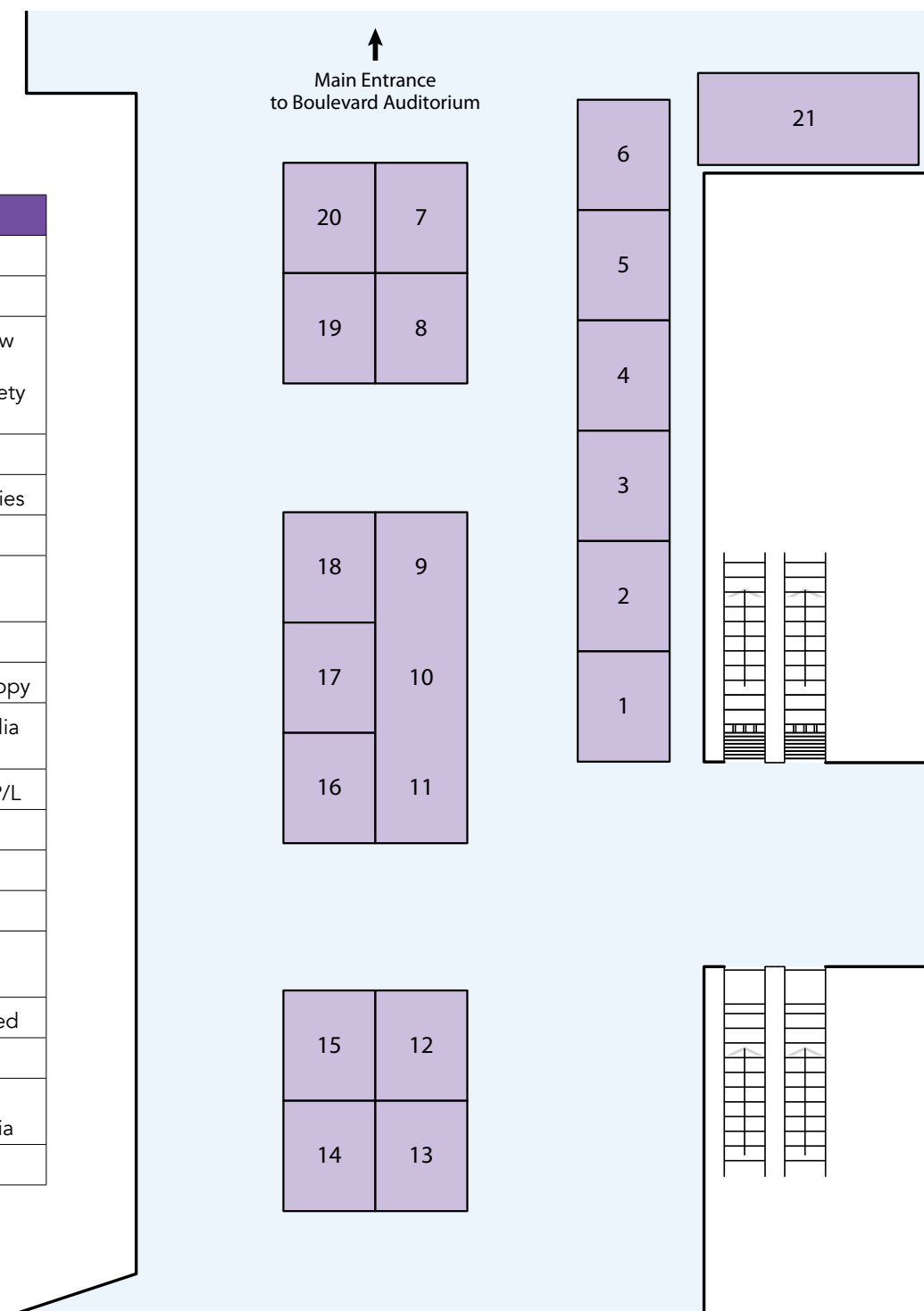
Immuno-Oncology



Industry Exhibition

Boulevard Auditorium Foyer

BOOTH	COMPANY
15	ANZ Health
4	Atos Medical
14	Australian and New Zealand Head & Neck Cancer Society / Beyond Five
17	CR Kennedy
20	Device Technologies
1	Elekta
19	INLINE Medical & Dental
2	Integra
8	Karl Storz Endoscopy
5	KLS Martin Australia Pty Ltd
6	Medical Devices P/L
21	Medrobotics
18	Medtronic
3	Merck
13	Merck Sharp & Dohme
16	Norgine Pty Limited
12	Stryker
9 - 11	Varian Medical Systems Australasia
7	ZEISS



Floorplan subject to change at the discretion of the organising committee.

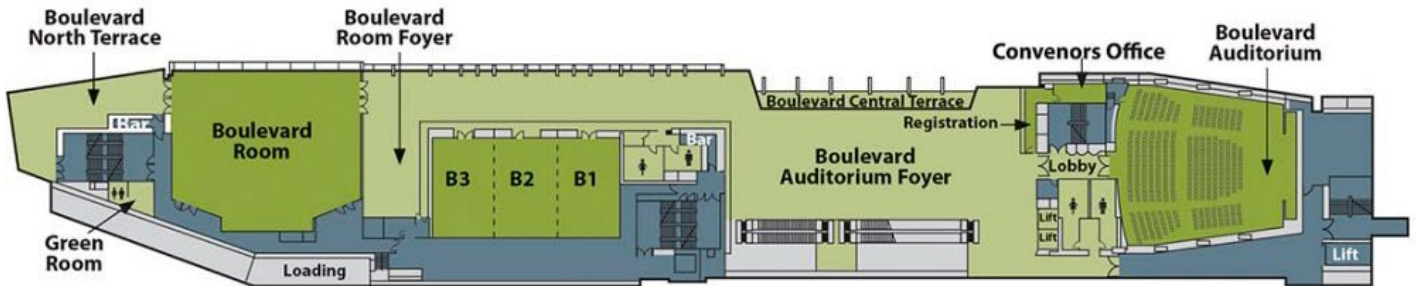
12 – 14 October 2017

Brisbane Convention & Exhibition Centre, Brisbane, Australia

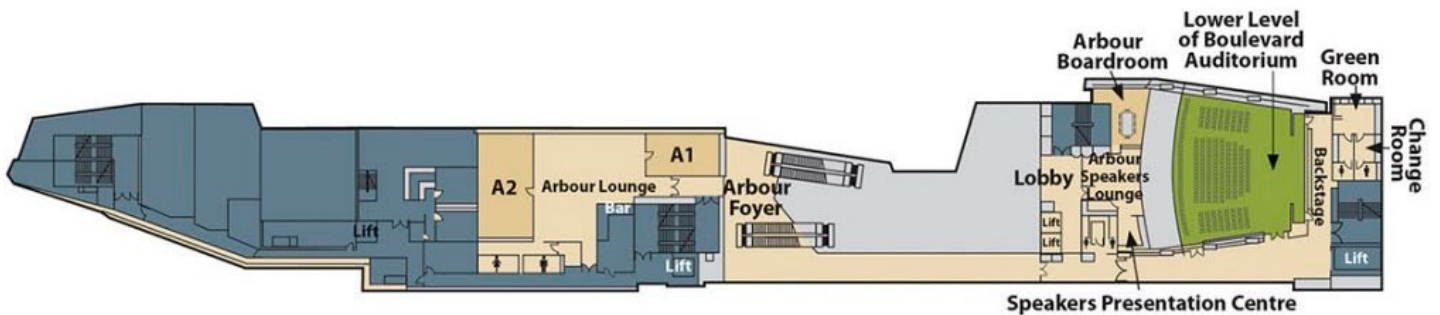
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Venue Map

Boulevard Level






Arbour Level



Program at a Glance

WEDNESDAY 11 OCTOBER 2017		
Pre-Meeting Workshops		
1:30pm – 5:00pm	Concurrent Session A – Part 1: Radiation Oncology Part 2: Laryngectomy and voice rehabilitation: multidisciplinary management of challenging cases Royal Brisbane and Women's Hospital	Concurrent Session B – Part 1: Skull Base Part 2: Head and Neck Reconstruction Meeting Room B3, Brisbane Convention & Exhibition Centre
5:30pm – 7:30pm	ANZHNCS Executive Committee Meeting (Executive Committee Members Only) <i>Arbour Boardroom, Brisbane Convention & Exhibition Centre</i>	

THURSDAY 12 OCTOBER 2017		
8:20am – 10:30am	Session 1 – Opening Session <i>Boulevard Auditorium</i>	
10:30 am – 11:00am	Morning Tea with the Industry <i>Boulevard Auditorium Foyer</i>	
11:00am – 12:30pm	Session 2 – Multi-disciplinary Debate / Keynote Lecture / Free Papers <i>Debate One proudly sponsored by:  DEVICE TECHNOLOGIES</i> <i>Boulevard Auditorium</i>	
12:30pm – 1:30pm	Lunch with the Industry <i>Boulevard Auditorium Foyer</i>	
12:20pm – 1:20pm	Foundation Board Meeting (Board Members Only) <i>Meeting Room B1</i>	
1:30pm – 3:00pm	Concurrent Session 3A – Translational Research / Free Papers <i>Proudly sponsored by:  VARIAN medical systems A partner for life</i> <i>Meeting Room B1</i>	Concurrent Session 3B – Advanced Techniques / Free Papers <i>Proudly sponsored by:  VARIAN medical systems A partner for life</i> <i>Boulevard Auditorium</i>
3:00pm – 3:30pm	Afternoon Tea with the Industry <i>Boulevard Auditorium Foyer</i>	
3:30pm – 4:50pm	Concurrent Session 4A – Surgery Free Papers <i>Meeting Room B1</i>	Concurrent Session 4B – Allied Health Free Papers <i>Boulevard Auditorium</i>
5:00pm – 7:00pm	Welcome Reception <i>Boulevard Auditorium Foyer, Brisbane Convention & Exhibition Centre</i>	

12 – 14 October 2017

Brisbane Convention & Exhibition Centre, Brisbane, Australia

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FRIDAY 13 OCTOBER 2017		
7:30am – 8:30am	Breakfast Session: How I treat skull base malignancies – multi-disciplinary case discussions <i>Boulevard Auditorium</i>	
8:30am – 10:30am	Session 5 – Keynote Lecture / Tumour Board <i>Boulevard Auditorium</i> Proudly sponsored by:  A partner for life	
10:30 am – 11:00am	Morning Tea with the Industry <i>Boulevard Auditorium Foyer</i>	
11:00am – 12:30pm	Session 6 – Keynote Lectures / Nutrition in OP Cancer Debate <i>Boulevard Auditorium</i>	
12:30pm – 1:30pm	ANZHNCS AGM (Members Only) <i>Boulevard Auditorium</i>	
12:30pm – 1:30pm	Lunch with the Industry <i>Boulevard Auditorium Foyer</i>	
1:30pm – 3:00pm	Concurrent Session 7A – Clinical Research / Free Papers <i>Boulevard Auditorium</i>	Concurrent Session 7B – Reconstructive Surgery Free Papers <i>Meeting Room B1</i>
3:00pm – 3:30pm	Afternoon Tea with the Industry <i>Boulevard Auditorium Foyer</i>	
3:30pm – 5:00pm	Concurrent Session 8A – Foundation Session <i>Boulevard Auditorium</i>	Concurrent Session 8B – Allied Health Free Papers <i>Meeting Room B1</i>
7:00pm – 10:30pm	Meeting Dinner <i>Boulevard Room, Brisbane Convention & Exhibition Centre</i>	
SATURDAY 14 OCTOBER 2017		
8:30am – 10:30am	Concurrent Session 9A – Sexuality in Head and Neck Cancer / Tumour Board <i>Boulevard Auditorium</i>	Concurrent Session 9B – Free Papers <i>Meeting Room B1</i>
10:30 – 11:00am	Morning Tea with the Industry <i>Boulevard Auditorium Foyer</i>	
11:00am – 12:30pm	Session 10 – Keynote Lecture / Nutrition Outcomes in Head and Neck Cancer / Free Papers <i>Boulevard Auditorium</i>	
12:10pm	Awarding of ANZHNCS prizes Closing Remarks <i>Boulevard Auditorium</i>	
12:30pm	Meeting Close	

Pre-Meeting Workshops

Wednesday 11 October 2017

1:30pm – 5:00pm **Practical sessions with the experts**

Concurrent Session A

Royal Brisbane and Women's Hospital

Part 1: Radiation Oncology

1:30pm	Skull base imaging Dr Jennifer Sommerville (Australia)	1:30pm
1:50pm	Image registration in radiation therapy Ms Kate Stewart (Australia)	2:15pm
2:10pm	Adapting to change – head and neck replanning Dr Elizabeth Brown (Australia)	
2:30pm	Case presentation Dr Benjamin Chua (Australia)	3:00pm
2:35pm	Intergroup consensus guidelines on contouring the primary site Professor Sandro Porceddu (Australia)	4:00pm

Part 2: Laryngectomy and voice rehabilitation

Chair: Dr Bena Cartmill (Australia)

3.30pm	Laryngectomy and voice rehabilitation: multidisciplinary management of challenging cases Mrs Kelli Hancock (Australia), Dr Martin Hanson (Australia), Dr Chris Perry (Australia), Mrs Ann-Louise Spurgin (Australia), Dr Maurice Stevens (Australia) and Dr Sarju Vasani (Australia)
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Concurrent Session B

Meeting Room B3

Brisbane Convention & Exhibition Centre

Part 1: Skull Base

360° approach to the skull base – making sense of open vs endoscopic and anterior vs lateral approaches

Professor Benedict Panizza (Australia)

Case based problem solving in anterior and lateral skull base surgery

Convener Dr Ryan Sommerville (Australia)

Part 2: Head and Neck Reconstruction

Scalp defect reconstruction

Dr Michael Wagels (Australia)

Complex composite head and neck reconstruction

ANZHNCS President Associate Professor Martin Batstone (Australia)

Scientific Program

Thursday 12 October 2017

8:20am – 10:30am Session 1 – Opening Session

Boulevard Auditorium

Chairs: ANZHNCS President Associate
Professor Martin Batstone (Australia) and
Convener Dr Ryan Sommerville (Australia)

8:20am

Welcome

**ANZHNCS President – Associate
Professor Martin Batstone (Australia)**

8:30am

ANZHNCS – Chris O'Brien Oration

Professor Liz Ward (Australia)

11:40am

9:00am

Keynote Lecture:

An overview of head and neck cancer clinical
trials within NRG oncology

Professor Quynh-Thu Le (USA)

12:10pm

9:30am

Keynote Lecture:

Implementation of active surveillance for
thyroid cancer at Memorial Sloan Kettering

Dr Luc Morris (USA)

12:20pm

10:00am

Keynote Lecture:

Proton therapy in head and neck cancer

Dr David Rosenthal (USA)

12:20pm – 1:20pm

10:30am – 11:00am

Morning tea with the Industry

Boulevard Auditorium Foyer

11:00am – 12:30pm

Session 2 – Multi-disciplinary Debate / Keynote Lecture / Free Papers


Boulevard Auditorium

Chairs: Dr Benjamin Chua (Australia) and
Convener Dr Ryan Sommerville (Australia)

12:30pm – 1:30pm

11:00am

Debate One:

Proudly sponsored by: 

"Radiotherapy is overused in early stage
head and neck SCC - the pendulum has
swung too far"

Moderator: Dr Chris Perry (Australia)

Discussion Points:

Oral Cavity SCC and cSCC

- Two multi-disciplinary teams of three
- 5 minutes per speaker
- Audience vote at end of debate to decide the winning team

1:30pm

1:45pm

Debators:

RED TEAM (For):

**Associate Professor Martin Batstone
(ANZHNCS President) (Captain) (Australia)**

Dr Jim Jackson (Australia)

Dr Luc Morris (USA)

vs

BLUE TEAM (Against):

Dr Suren Krishnan (Australia)

Professor Quynh-Thu Le (USA)

Dr Sandro Porceddu (Captain) (Australia)

Keynote Lecture:

The impact of nutritional status on treatment
outcomes

Dr Jacqueline Languis (NL)

Maximising screening and referral to
physiotherapy after neck dissection:
a translational study

Dr Aoife McGarvey (Australia)

Optimising the treatment of ulcerative
malignancies with novel locally acting
therapeutic formulations

Dr Nathan Adams (Australia)

Foundation Board Meeting (Board Members Only)

Meeting Room B1

Lunch with the Industry

Boulevard Auditorium Foyer

1:30pm – 3:00pm

Session 3 – Concurrent Sessions

Concurrent Session A:

Translational Research / Free Papers

Meeting Room B1

Proudly sponsored by:  | A partner for 

Chair: Dr Sandro Porceddu (Australia)

Using cell surface markers to change cancer
management

Dr Fiona Simpson (Australia)

Adaptive replanning and advanced
radiotherapy techniques

Dr Elizabeth Brown (Australia)

Scientific Program (Thursday 12 October 2017 cont'd)

2:00pm	Telehealth model of care in head and neck Dr Clare Burns (Australia)	2:20pm	Adaptive split course radiotherapy for definitive treatment locally advanced skin cancers of head and neck is effective, and associated with good compliance and acceptable toxicity Professor Gerald Fogarty (Australia)
2:15pm	Evaluation of a speech pathology / dietetic pre-treatment group education model for patients with head and neck cancer receiving (chemo)radiotherapy Dr Laurelie Wall (Australia)	2:30pm	CT based modified SHIN classification for grading trachea invasion: addressing the resectability issues in thyroid cancer Dr Abhishek Mahajan (India)
2:25pm	PEG dependency trends over a 15 year period for mucosal head and neck cancer patients treated at a large tertiary referral centre Ms Allison Fraser (Australia)	2:40pm	Diagnostic performance of Thyroid Multimodal-Imaging Comprehensive Risk Stratification Scoring (TMC-RSS) system in characterising thyroid nodules Dr Abhishek Mahajan (India)
2:35pm	What are the costs of delivering intensive, prophylactic swallowing therapy to patients with head / neck cancer via telehealth? An economic analysis of a 3-arm RCT Dr Laurelie Wall (Australia)	2:50pm	The prognostic impact of number of nodal metastases in metastatic cutaneous squamous cell carcinoma of the head and neck Mr Ashish Sood (Australia)
2:45pm	Introduction of a speech pathology assistant role for swallow screening in a head and neck radiotherapy clinic Dr Jacqui Frowen (Australia)	3:00pm – 3:30pm	<i>Afternoon tea with the Industry Boulevard Auditorium Foyer</i>
1:30pm – 3:00pm	Session 3 – Concurrent Sessions Concurrent Session B: Advanced Techniques / Free Papers <i>Boulevard Auditorium</i> <i>Proudly sponsored by:  A partner for life</i> Chairs: Dr Albert Tiong (Australia) and Dr Ben Wallwork (Australia)	3:30pm – 4:50pm	Session 4 – Concurrent Sessions Concurrent Session A: Surgery Free Papers <i>Meeting Room B1</i> Chairs: Dr Raefe Gundelach (Australia) and Dr Emily Perry (Australia)
1:30pm	Robotics – where are we now? Dr John-Charles Hodge (Australia)	3:30pm	Hypopharyngeal carcinomas: a Prince of Wales Hospital review Professor Robert Smee (Australia)
1:50pm	Functional outcomes in TORS Dr Sam Dowthwaite (Australia)	3:40pm	Outcomes for head and neck cancer patients admitted to intensive care in Australia and New Zealand between 2000 and 2015 Dr Claire Frauenfelder (Australia)
2:00pm	Oncological outcomes of TORS for oropharyngeal SCC Dr Richard Gallagher (Australia)	3:50pm	Integrating virtual surgical planning and 3D printing technology in a universal healthcare system Mr Felix Sim (Australia)
2:10pm	A multicentre analysis of the prognostic performance of the 8th edition American Joint Committee on Cancer staging for metastatic cutaneous squamous cell carcinoma of the head and neck Mr Ashish Sood (Australia)	4:00pm	The surgical learning curve in the treatment of oral squamous cell carcinoma Dr Timothy Liu (Australia)
		4:10pm	Quality of life after radical parotidectomy Dr Eric Luu (Australia)

4:20pm The impact of removing microscopic extrathyroidal extension from existing prognostic systems on predicting recurrence risk in papillary thyroid carcinoma

Mr David Roshan (Australia)

4:30pm Lymph node ratio as a prognostic factor in metastatic cutaneous head and neck squamous cell carcinoma

Dr Kartik Vasan (Australia)

4:40pm The use of Transnasal Humidified Rapid-Insufflation Ventilatory Exchange (THRIVE) in otolaryngology: our experiences in two Australian tertiary facilities

Dr Joshua Lau (Australia)

3:30pm – 4:50pm Session 4 – Concurrent Sessions

Concurrent Session B: Allied Health Free Papers

Boulevard Auditorium

Chairs: Ms Cheryl Kelly (Australia) and Dr Laurelie Wall (Australia)

3:30pm Predictors of weight changes among patients with head and neck cancer at St Vincent's Hospital (SVH): preliminary findings

Ms Amanda Duffy (Australia)

3:40pm Transforming clinical service delivery: implementation of the head and neck cancer low risk speech pathology pathway

Mrs Laura Moroney (Australia)

3:50pm Lymphoedema in head and neck cancer patients: the lived experience

Ms Claire Jeans (Australia)

4:00pm Does HPV status impact on the need for a feeding tube during treatment for oropharynx cancer?

Miss Belinda Vangelov (Australia)

4:10pm Thematic analysis of short and long-term patient-reported rehabilitation goals following head and neck cancer treatment

Ms Molly Barnhart (Australia)

4:20pm Relationships between tobacco smoking and alcohol consumption during chemoradiation for head and neck cancer with voice and swallowing outcomes during and post treatment

Mrs Amy Ashley (Australia)

4:30pm A prospective cohort study: cognitive and neurobehavioral function in long-term survivors treated for nasopharyngeal cancer with intensity-modulated radiotherapy in a non-endemic centre

Dr Lachlan McDowell (Australia)

5:00pm – 7:00pm Welcome Reception

*Boulevard Auditorium Foyer
Brisbane Convention & Exhibition Centre*

Friday 13 October 2017

7:30am – 8:30am Breakfast Session

Boulevard Auditorium

Chairs: Dr Julie Agnew (Australia) and Dr June Corry (Australia)

How I treat skull base malignancies – multi-disciplinary case discussions

Dr Benjamin Chua (Australia)

Dr Matt Foote (Australia)

Dr Mitesh Gandhi (Australia)

Professor Quynh-Thu Le (USA)

Dr David Rosenthal (USA)

Dr Daniel Rowe (Australia)

Convener Dr Ryan Sommerville (Australia)

8:30am – 10:30am Session 5 – Keynote Lecture / Tumour Board

Proudly sponsored by:  | A partner for life

Boulevard Auditorium

Chairs: ANZHNCS President Associate Professor Martin Batstone (Australia) and Dr Scott Coman (Australia)

Keynote Lecture:

Precision oncology for head and neck cancer: implementing genomics into everyday clinical care

Dr Luc Morris (USA)

Challenging the treatment paradigm that all patients with locally advanced cSCCHN require surgery

Dr Sandro Porceddu (Australia)

9:10am Beyond Five presentation
Dr Bruce Ashford (Australia)

Scientific Program (Friday 13 October 2017 cont'd)

9:20am	<p>Tumour Board Chairs: Dr David Hall (Australia) and Convener Dr Ryan Sommerville (Australia)</p> <p>Topic Focus: <ul style="list-style-type: none"> • Adenoid cystic carcinoma of the parotid • Parotid / neck cSCC metastasis Dr James Bowman (Australia) Dr Richard Lewis (Australia) Dr Sandro Porceddu (Australia)</p>	12:30pm – 1:30pm	<p>Lunch with the Industry <i>Boulevard Auditorium Foyer</i></p>
10:30am – 11:00am	<p>Morning tea with the Industry <i>Boulevard Auditorium Foyer</i></p>	1:30pm – 3:00pm	<p>Session 7 – Concurrent Sessions Concurrent Session A: Clinical Research / Free Papers <i>Boulevard Auditorium</i></p> <p>Chairs: Dr Elizabeth Brown (Australia) and Dr Patrick Dwyer (Australia)</p>
11:00am – 12:30pm	<p>Session 6 – Keynote Lectures / Nutrition in OP Cancer Debate <i>Boulevard Auditorium</i></p> <p>Chairs: Dr James Bowman (Australia) and Dr June Corry (Australia)</p>	1:30pm	<p>How to make it in clinical research – advice from someone who's made it CSL Centenary Fellow Dr Steven Lane (Australia)</p>
11:00am	<p>Keynote Lecture: Tackling salivary stem cells to improve function after radiotherapy Professor Quynh-Thu Le (USA)</p>	1:50pm	<p>Identifying a poor prognostic subgroup in head and neck squamous cell carcinoma using FDG-PET scans performed before and during radiation treatment Dr Allan Fowler (Australia)</p>
11:20am	<p>Keynote Lecture: Epidemiology of human papilloma virus and oropharyngeal cancer Dr Anil Chaturvedi (USA)</p>	2:00pm	<p>Mutational signature of metastatic cutaneous SCC (cSCC) Dr Bruce Ashford (Australia)</p>
11:50am	<p>Debate Two: "PEG versus No-PEG for Ch / XRT for oropharyngeal SCC" Moderator: Associate Professor Julia Maclean (Australia)</p> <ul style="list-style-type: none"> • Two multi-disciplinary teams of three • 5 minutes per speaker • Audience vote at end of debate to decide the winning team <p>Debaters: RED TEAM (For): Ms Teresa Brown (Australia) Dr Patrick Dwyer (Australia) Dr Jacqueline Langius (NL) vs BLUE TEAM (Against): Ms Louise Cooney (Australia) Ms Rachelle Robinson (Australia) Dr Robert Smee (Australia)</p>	2:10pm	<p>Assessing the influence of treatment time- course of combinations of EBC-46 and chemotherapy in the management of head and neck squamous cell carcinoma Dr Nathan Adams (Australia)</p>
12:30pm – 1:30pm	<p>ANZHNCS AGM (Members Only) <i>Boulevard Auditorium</i></p>	2:20pm	<p>New therapeutics to aid treatment de-escalation in the management of head and neck squamous cell carcinoma Dr Nathan Adams (Australia)</p>
		2:30pm	<p>Quality of life (QOL) analysis of head and neck cancer (HNC) patients undergoing parotid sparing adaptive radiotherapy (PSART) – interim results of a prospective longitudinal study Dr Sanjoy Chatterjee (India)</p>
		2:40pm	<p>Quality assurance results of Carotid Sparing Helical Tomotherapy Phase-2 (CARSREL) Study Dr Sanjoy Chatterjee (India)</p>
		2:50pm	<p>Comparison of acute toxicities and quality of life following dose escalation in locally advanced / poor prognosis laryngopharyngeal cancers within the INTELHOPE study Dr Sanjoy Chatterjee (India)</p>

1:30pm – 3:00pm Session 7 – Concurrent Sessions

Concurrent Session B: Reconstructive Surgery Free Papers

Meeting Room B1

**Chairs: Dr Sam Dowthwaite (Australia)
and Dr Daniel Rowe (Australia)**

- 1:30pm Reconstruction of radical parotidectomy defect with chimeric anterolateral thigh flap
Dr Shaheen Hasmat (Australia)
- 1:40pm Microsurgical reconstruction of the nasal alar using free helical rim flaps
Dr Milap Rughani (Australia)
- 1:50pm Composite facial and scalp resection: a review of 225 consecutive cases
Dr Daisy Frankcombe (Australia)
- 2:00pm Pitfalls and rethink of free muscle latissimus dorsi reconstruction in extended cranioplasty
Dr Devlin Elliott (Australia)
- 2:10pm Pharyngolaryngectomy with jejunal free flap reconstruction – a tertiary centre's review
Dr Courtenay Henrys (Australia)
- 2:20pm Complex anterior skull base reconstruction with chimeric five component scapula tip
Dr Devlin Elliott (Australia)
- 2:30pm Technical refinements in composite facial and scalp resection and reconstruction: 225 consecutive cases
Dr Daisy Frankcombe (Australia)
- 2:40pm Fat grafting beyond the breast: our experience with autologous fat graft in head and neck reconstruction
Dr Robert Calvisi (Australia)
- 2:50pm Metastatic basal cell carcinoma: a review of six cases
Dr Joshua Lau (Australia)

3:00pm – 3:30pm *Afternoon tea with the Industry
Boulevard Auditorium Foyer*

3:30pm – 5:00pm Session 8 – Concurrent Sessions

Concurrent Session A: Foundation Session

Boulevard Auditorium

**Chairs: Dr Lyndell Kelly (Australia) and
Associate Professor David Wiesenfeld
(Australia)**

- 3:30pm Is MRI a useful modality to measure pharyngeal oedema following chemo-radiation?
Associate Professor Julia Maclean (Australia)
- 3:40pm Development and validation of the significant other scale for dysphagia in head and neck cancer
Dr Bena Cartmill (Australia)
- 3:50pm Unravelling genetic markers of progression and metastases in head and neck cutaneous squamous cell carcinoma
Dr Bruce Ashford (Australia)
- 4:00pm RNA sequencing of metastatic cutaneous squamous cell carcinoma with nano-string
Dr Tharsiga Gnanasekaran (Australia)
- 4:10pm Radiation-induced changes in the expression of mucin in oral mucosa
Helena Ukkonen (Finland)
- 4:20pm Prognosis of metastatic squamous cell carcinoma over the last 30 years
Dr Tharsiga Gnanasekaran (Australia)
- 4:30pm In vivo raman spectroscopy assisted early identification of potential second primary / recurrences in oral cancers: an exploratory study
Dr Akshat Malik (India)
- 4:40pm The first three years of a rural centres experience with PET: head and neck perspectives
Dr Veena Wadhera (Australia)
- 4:50pm Modifying the clinical use of a novel PKC-activating drug
Dr Courtenay Henrys (Australia)

Scientific Program (cont'd)

3:30pm – 5:00pm **Session 8 – Concurrent Sessions**

Concurrent Session B: Allied Health Free Papers

Meeting Room B1

**Chairs: Dr Clare Burns (Australia) and
Professor Liz Ward (Australia)**

- 3:30pm Total laryngectomy and functional outcomes: a comparison of salvage laryngectomy vs primary laryngectomy with adjuvant radiation therapy
Mrs Rachelle Robinson (Australia)
- 3:40pm Clinical characteristics of patients requiring nasogastric tube feeding during radical head and neck cancer treatment
Ms Sarah Gilliland (Australia)
- 3:50pm "I looked like an elephant": exploring the distress and quality of life associated with head and neck lymphoedema
Ms Jodie Nixon (Australia)
- 4:00pm Impact of early prophylactic feeding on long term tube dependency outcomes in patients with head and neck cancer
Mrs Teresa Brown (Australia)
- 4:10pm Prophylactic versus reactive gastrostomy tube placement in head and neck cancer patients
Dr Stephen Kao (Australia)
- 4:20pm "ScreenIT Carer": computerised screening of distress in carers of head and neck cancer patients receiving (chemo)radiotherapy
Miss Alana Hutchison (Australia)
- 4:30pm Home based telehealth service for swallowing and nutritional management following head and neck cancer treatment
Mrs Annette Collins (Australia)
- 4:40pm Quality of life, self-reported and physical function of the neck and upper limb after neck dissection: a prospective longitudinal study
Ms Elise Gane (Australia)
- 4:50pm Adherence and barriers to tube feeding during treatment for head and neck cancer – results from a RCT
Mrs Teresa Brown (Australia)

7:00pm – 10:30pm **Meeting Dinner**

Boulevard Room

Brisbane Convention & Exhibition Centre

Saturday 14 October 2017

8:30am – 10:30am **Session 9 – Concurrent Sessions**

Concurrent Session A: Sexuality in Head and Neck Cancer / Tumour Board

Boulevard Auditorium

**Chairs: Dr Lizbeth Kenny (Australia) and
Ms Jodie Nixon (Australia)**

- 8:30am Oral HPV infection and associations with lifestyle factors and sexual behaviour
Dr Annika Antonsson (Australia)
- 8:45am Sex is as important as eating or drinking: how does head and neck cancer affect these vital functions?
Dr Haryana Dhillon (Australia)
- 9:00am The psychological impact of head and neck cancer in survivorship
Professor Jane Turner (Australia)
- 9:15am Tumour Board
Chair: Dr Lizbeth Kenny (Australia)
- Survivorship cases: They're cured, but are they happy?
- Case Studies:
- Advanced skull base Ca resections
 - Cured of laryngeal cancer but still needing a laryngectomy
- Mr Kenton Campbell – cancer survivor and Zarraffa's Coffee founder (Australia)**
Dr Bena Cartmill (Australia)
Professor Quynh-Thu Le (USA)
Convener Dr Ryan Sommerville (Australia)
Professor Jane Turner (Australia)

8:30am – 10:30am Session 9 – Concurrent Sessions

Concurrent Session B: Free Papers

Meeting Room B1

**Chairs: Dr Matt Cronin (Australia) and
Dr Ben Dixon (Australia)**

- 8:30am Robotic outcomes in salvage oropharyngeal SCC
Dr Ben Dixon (Australia)
- 8:50am The extent of extrathyroidal extension is a key determinant of prognosis in T4a papillary thyroid cancer
Dr Earl Abraham (Australia)
- 9:00am Minimally invasive management of laryngeal chondrosarcoma: our experience with powered debridement and an analysis of outcomes
Dr Veena Wadhera (Australia)
- 9:10am Oral SCC with perineural invasion: a comparative study of classification types and prognosis
Dr Anna Megow (Australia)
- 9:20am Ameloblastoma in a 86 y/o: clinical and radiological findings to be aware of
Dr Veena Wadhera (Australia)
- 9:30am Gradenigo Syndrome on a 30yrs old Tongan female
Dr Sepiuta Lopati (Tonga)
- 9:40am Time zero in head and neck cancer management: a better measure of pre-treatment wait time?
Dr Stephanie Flukes (Australia)
- 9:50am Results of a five year quality of life follow-up study of patients at St Vincent's Private Hospital post trans-oral robotic surgery for carcinoma of tongue base and tonsil
Ms Pauline Dooley (Australia)
- 10:00am Sinonasal tumours and tumour-like lesions: the eye sees only what the mind is prepared to comprehend
Dr Abhishek Mahajan (India)
- 10:10am Trans tracheal approach to the oesophagus
Dr Angelica Lynch (Australia)

10:30am – 11:00am **Morning tea with the Industry**
Boulevard Auditorium Foyer

11:00am – 12:30pm Session 10 – Keynote Lecture / Nutrition Outcomes in Head and Neck Cancer / Free Papers

Boulevard Auditorium

**Chairs: Dr Bena Cartmill (Australia) and
Dr Benjamin Chua (Australia)**

- 11:00am **Keynote Lecture:**
The effectiveness of dietary interventions during chemo-radiotherapy
Dr Jacqueline Languis (NL)
- 11:30am Eating as treatment: outcomes of a motivational interviewing technique on nutritional endpoints
Dr Benjamin Britton (Australia)
- 11:50am Longitudinal side effects and barriers to oral intake following non-surgical head and neck cancer treatment
Ms Molly Barnhart (Australia)
- 12noon Distress in head and neck cancer: can you recognise it, can you respond to it? The benefits of a brief communication training intervention
Ms Jodie Nixon (Australia)
- 12:10pm ANZHNCS Awards**
Abstract Award Presentation
- 12:20pm Closing Remarks
**ANZHNCS President Associate
Professor Martin Batstone (Australia)
and Convener Dr Ryan Sommerville (Australia)**
- 12:30pm Meeting Close**

Verbal Presentation Abstracts *Listed in alphabetical order according to Presenter's surname. Presenters appear in bold.*

THE EXTENT OF EXTRATHYROIDAL EXTENSION IS A KEY DETERMINANT OF PROGNOSIS IN T4a PAPILLARY THYROID CANCER

Dr Earl Abraham, Mr David Roshan, Dr Bryan Tran,
Dr Susannah Graham, Dr Christopher Lehane,
Dr James Wykes, Dr Peter Campbell,
A/Prof Ardalan Ebrahimi

Liverpool Hospital, Sydney, New South Wales, Australia

Purpose: In papillary thyroid cancer (PTC), the adverse prognostic impact of macroscopic extrathyroidal extension (macro-ETE) invading the subcutaneous soft tissue, larynx, trachea, oesophagus or recurrent laryngeal nerve (T4a disease) is well established¹⁻² and incorporated into the AJCC T staging. However, little is known regarding the prognostic significance of the extent of macro-ETE. We aimed to determine if the extent of macro-ETE, defined as "limited" if a single structure was involved (lim-ETE) and "extensive" with multiple structures (ext-ETE), influences prognosis in patients with T4a PTC.

Methodology: A retrospective analysis of 610 patients with PTC identified 39 with T4a disease, including 26 with lim-ETE and 13 with ext-ETE. Univariate Cox regression was used to assess the relationship between extent of macro-ETE and DFS.

Results: Patients with ext-ETE were more likely to be aged ≥ 55 years (54% vs 21%; $p=0.030$) and have larger tumours (3.2 vs 1.2cm; $p=0.001$) compared with lim-ETE, but there was no association with positive margins ($p=0.867$). In T4a disease, ext-ETE (HR 5.0, $p<0.030$) was associated with a 400% increased risk of recurrence compared to lim-ETE, with or without adjustment for radioactive iodine administration and after adjustment for margins (HR 4.7; $p=0.041$). Despite limited statistical power, there appeared to be an interaction between ext-ETE and margin status with a synergistic adverse effect when both were present (HR 23.0; $p=0.179$).

Conclusion: The extent of macro-ETE appears to be an important determinant of prognosis in T4a PTC. This may have implications for both treatment and staging but requires further study.

¹ Radowsky et al. *Thyroid*, 24(2), 241–244 (2014)

² Ito et al. *World Journal of Surgery*, 30(5), 780–786 (2006).

ASSESSING THE INFLUENCE OF TREATMENT TIME-COURSE OF COMBINATIONS OF EBC-46 AND CHEMOTHERAPY IN THE MANAGEMENT OF HEAD AND NECK SQUAMOUS CELL CARCINOMA

Dr Nathan Adams, Prof Benedict Panizza,
Prof Peter Parsons

Princess Alexandra Hospital, Queensland, Australia

EBC-46 is a locally acting intervention that preliminary research suggests could have efficacy in the management of head and neck squamous cell carcinoma (HNSCC) and is currently being assessed in a phase I trial. It is theorised that there may be a synergistic effect when EBC-46 is combined with chemotherapy however, little is known about the optimal timing of its use relative to chemotherapy. This study assessed the efficacy of different administration time-courses of EBC-46 with chemotherapy in the treatment HNSCC with the aim of identifying the optimal treatment regimen.

Method: Five different HNSCC cell lines were cultured in vitro prior to treatment with combinations of EBC-46, cisplatin, and 5-fluorouracil (5-FU). Each cell line was treated with EBC-46 twenty-four hours before, after, and concurrently with each chemotherapy agent. Treatment efficacy was ascertained using sulforhodamine B cell proliferation assays and data graphed as a percentage relative to untreated controls.

Results: For combinations of EBC-46 and 5-FU, concurrent and EBC-46 pre-treatment demonstrated superior efficacy over the other treatment time-courses for A431 and UV13.1 respectively (p -values 0.00001 and 0.00002). For combinations of EBC-46 and cisplatin, concurrent treatment for A431 proved to be the most efficacious treatment regimen (p -value 0.00005).

Conclusion: Treatment time-course appears to have the potential to significantly influence treatment efficacy in vitro. The influence of time-course appears to vary with both cell line and drug combination used. While further research is required to assess the underlying aetiology for such variability in efficacy and whether such in vitro effects are clinically significant, these results suggest that the timing of treatment with EBC-46 when combined with chemotherapy is likely to have a considerable impact on efficacy.

OPTIMISING THE TREATMENT OF ULCERATIVE MALIGNANCIES WITH NOVEL LOCALLY ACTING THERAPEUTIC FORMULATIONS

Dr Nathan Adams, Prof Benedict Panizza,
Prof Peter Parsons

Princess Alexandra Hospital, Queensland, Australia

Increasingly there is a drive to formulate new cancer treatments that act locally to the disease and avoid prohibitive systemic side-effects. A short coming of such treatments are their use in ulcerative lesions whereby there is often a considerable reduction in efficacy through drug exudation. This study investigated the role of different formulations and administration techniques of a novel locally acting therapy, EBC-46, in the management of ulcerated lesions with the aim of optimising treatment efficacy.

Method: Three different formulations or administration techniques of EBC-46 were assessed in two cancer cell lines, MC38 and SCC15, in vivo in syngeneic and xenogeneic mouse models. Once tumours reached an average volume of 70-100mm³ and demonstrated at least moderate ulceration (30-50%), they were treated with either standard liquid EBC-46, standard EBC-46 with an occlusive dressing, a thermosetting EBC-46 gel formulation, or a negative control (propylene glycol). Efficacy was assessed through daily tumour volumes post treatment.

Results: The EBC-46 thermosetting gel formulation demonstrated superior treatment efficacy over the other treatment modalities in the management of ulcerative tumours with initial cure rates in the syngeneic model of 100% vs 60-80% for the standard EBC-46 formulation or its use with occlusive dressings. Additionally, the median duration of response was 32.6 days compared to 8.2 or 4.7 (p-values <0.05). Further, the thermosetting gel formulation demonstrated a statistically superior (p-values <0.05) median survival.

Conclusion: A thermosetting gel formulation of EBC-46 appears to result in significantly improved efficacy in the management of ulcerative lesions. This is likely a consequence of improved drug retention within the tumour. These results have important ramifications for the clinical use of EBC-46 in the setting of ulcerative disease.

NEW THERAPEUTICS TO AID TREATMENT DE-ESCALATION IN THE MANAGEMENT OF HEAD AND NECK SQUAMOUS CELL CARCINOMA

Dr Nathan Adams, Prof Benedict Panizza,
Prof Peter Parsons

Princess Alexandra Hospital, Queensland, Australia

Current treatment protocols for the management of head and neck squamous cell carcinoma (HNSCC) primarily involves combinations of surgical resection and chemoradiation. The adverse effects of these treatments, particularly for chemoradiation, is being increasingly recognised. These side-effects often preclude patients from treatment or result in ceasing or reducing treatment regimens prematurely. This coupled with the acknowledged increased sensitivity of human papilloma virus (HPV) associated disease is resulting in a push to de-escalate current chemoradiation treatment regimens. This study investigated the potential for a locally acting therapeutic, EBC-46, to aid de-escalation of chemoradiation in the treatment of HNSCC.

Method: Two HNSCC cell lines, SCC15 and UV13.1, were treated in vivo in a syngeneic and xenogeneic mouse model with sub-therapeutic combinations of EBC-46, radiation, and the chemotherapy agent, cisplatin. Efficacy was assessed by determining tumour volume daily post treatment.

Results: Any concentration of EBC-46 when combined with low dose intraperitoneal cisplatin (2.5mg/kg) demonstrated superior cure rates, duration of response, and median survival compared to single agent therapy in both the syngeneic and xenogeneic mouse models. Similarly, 7.5µg of intratumoural EBC-46 when combined with 5 and 10Gy of irradiation proved to be more efficacious than single agent treatment in each mouse model. There was no significant difference in efficacy between EBC-46 with 5 or 10Gy (p-value >0.05).

Conclusion: It is apparent that sub-therapeutic concentrations of chemoradiation when combined with EBC-46 does result in effective treatment of HNSCC in vivo. This was particularly evident when EBC-46 was combined with radiotherapy with even the lowest concentration of irradiation proving as efficacious as the higher concentration. This data suggests that EBC-46 may be a useful treatment adjunct to further aid chemoradiation treatment de-escalation.

Verbal Presentation Abstracts (cont'd)

MUTATIONAL SIGNATURE OF METASTATIC CUTANEOUS SCC (cSCC)

Dr Bruce Ashford, Prof Jonathan Clark, A/Prof Ruta Gupta, Prof Gopal Iyer, Prof Marie Ranson, Dr Velimir Gayevskiy, Ms Elahe Minaei, Mr Jay Perry, Dr Stephen Pearson, Dr Hubert Low, A/Prof Sydney Ch'Ng, Dr Kerwin Shannon, Dr Mark Cowley

*Illawarra Health and Medical Research Institute,
New South Wales, Australia*

Purpose: Mutational signatures for malignant disease have been identified and catalogued by the Catalogue of Somatic Mutations in Cancer (COSMIC). These signatures have an emerging role in predicting how different cancers respond to therapy, regardless of the underlying cell of origin. The mutational signature of metastatic cSCC has not been described.

Methodology: Fresh tissue from metastatic head and neck cSCC was collected and subjected to whole genome sequencing. Blood was also sequenced for germline variant exclusion. Bioinformatic analysis of somatic variants, copy number variation and structural rearrangements was employed to identify mutational signatures of each specimen in accordance with COSMIC models.

Results: Mutational signatures for metastatic cSCC are consistent with Signature 7, the pattern previously observed in the primary lesion setting. This signature comprises large groups of widespread CC>TT mutations, the anticipated mutational pattern from UV exposure and mutational aetiology. Other individual tumour and patient characteristics bore out influences of other signatures. This validates for the first time the COSMIC data in this disease and unlocks other clues to the nature of metastasis.

Conclusion: The mutational signature of cSCC is preserved during metastasis and is consistent with UV exposure. Other aetiological influences impact on signature patterns.

UNRAVELLING GENETIC MARKERS OF PROGRESSION AND METASTASES IN HEAD AND NECK CUTANEOUS SQUAMOUS CELL CARCINOMA

Dr Bruce Ashford

We wish to confirm the receipt of funding from ANZHNCS toward our project investigating the metastatic process in cutaneous SCC.

The funds provided have been used to develop the first cell line ever developed of metastatic cSCC. We have undertaken at the University of Wollongong the

establishment of this cell line, extracted DNA from this cell line for Whole Genome Sequencing (WGS), and completed expression analysis using the Nanostring platform. Further work has been done to test drug sensitivities for the cell line, and expose the cell line to radiation to produce a radio-resistant cell line.

WGS has shown a remarkable similarity of mutational signature and structural variation between the original metastatic deposit and the cell line. This is despite multiple passages and the selection of likely only a single clone. Notwithstanding this genetic similarity, there are distinct expression differences in key genes of cancer progression between the tumour and cell line.

The grant and this work have enabled this early work to establish the genomic and expression pattern of a unique cell line in metastatic cSCC.

RELATIONSHIPS BETWEEN TOBACCO SMOKING AND ALCOHOL CONSUMPTION DURING CHEMORADIATION FOR HEAD AND NECK CANCER WITH VOICE AND SWALLOWING OUTCOMES DURING AND POST TREATMENT

Mrs Amy Ashley, Miss Rebecca Smith

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Background: Ongoing smoking and alcohol consumption, during and post treatment, for head and neck cancer (HNC), affects outcomes such as prognosis and development of a secondary HNC. However, it has not been reported if ongoing smoking and alcohol consumption during chemoradiation (CRT) affects patients swallowing, voice and speech outcomes.

Aim: The aim of this pilot study is to compare outcomes affecting swallowing, voice and speech for patients who continue to both smoke and consume alcohol (group 1), smoke (group 2), consume alcohol (group 3) compared to controls (group 4) during CRT and up to six months post CRT.

Method: This project is a retrospective cohort study of 96 patients. Common Terminology Criteria for Adverse Events (CTCAE) scores documented weekly during patient's CRT and at each follow up appointment were analysed.

Results: During CRT group 1 ($p=0.008$), group 2 ($p<0.001$) and group 3 ($p=0.018$) all had statistically higher CTCAE scores of symptoms that affect swallowing than controls. When individual symptoms were analysed mucositis ($p=0.016$) and thick secretions ($p=0.03$) were worse in group 2 during treatment and odynophagia was worse in group 1 ($p=0.001$). Post CRT, group 1 continued

to suffer worse oral pain, odynophagia and oedema up to 6 months post CRT. Group 2 had worse ongoing mucositis ($p=0.04$) and xerostomia ($p=0.09$) at one month post CRT and worse dysgeusia and oral candida at six months post CRT. Dysarthria was a significant adverse effect impacting speech for group 3 at one month ($p<0.001$) and three months ($p=0.04$) post CRT.

Conclusion: Patients who smoked and/or consumed alcohol had consistently higher CTCAE scores. When symptoms were analysed individually patterns emerged which showed specific symptoms affecting certain groups more than others at different stages during and post CRT.

LONGITUDINAL SIDE EFFECTS AND BARRIERS TO ORAL INTAKE FOLLOWING NON-SURGICAL HEAD AND NECK CANCER TREATMENT

Ms Molly Barnhart, Prof Liz Ward, Dr Bena Cartmill, Ms Rachelle Robinson, Ms Virginia Simms, Ms Sophie Chandler, A/Prof Robert Smee

Prince of Wales Hospital, New South Wales, Australia

Purpose: Patients who receive (chemo)radiotherapy (CRT) for Head and Neck Cancer (HNC) experience treatment-related side effects that contribute to dysphagia. How these side effects impact oral intake and change over time is not well understood. The aim of this study was to longitudinally examine the presence of treatment-related side effects and their perceived impact on oral intake, and identify compensatory strategies used.

Methodology: Ninety-six patients were prospectively recruited and underwent semi-structured interviews by a speech pathologist at the end of treatment (EoT), and at 3, 6, 12, 24, and 36 months post (C)RT. Oral intake levels, presence/absence of patient-reported side effects, if side effects were reported a barrier to oral intake, and strategies implemented to optimise oral intake were collected.

Results: Significant ($p<0.05$) improvement occurred in patients managing a full diet from EoT to 3 months, with no significant change from 6-36 months post-treatment. Xerostomia (87.8%) and dysgeusia (78.7%) were the most frequently reported side effects at 3 months, with no significant change from EoT and 3 months, and from 6-36 months. Xerostomia (47%) and dysgeusia (49%) were the most frequent patient-reported barriers to oral intake at 3 months. Both side effects significantly reduced as a barrier to oral intake from EoT to 3 months post, with no significant change from 6-36 months. Strategies to optimise oral intake were implemented most frequently at 3 months, with ongoing strategies of alternating food and fluids (51%) and moistening foods (31%) used at 36 months.

Conclusion: Minimal improvement with oral intake and associated barriers occurred after 6 months. Speech pathology intervention should consider optimising swallow efficiency, reducing barriers to oral intake, and assisting in acceptance of function post-treatment.

THEMATIC ANALYSIS OF SHORT AND LONG-TERM PATIENT-REPORTED REHABILITATION GOALS FOLLOWING HEAD AND NECK CANCER TREATMENT

Ms Molly Barnhart, Prof Liz Ward, Dr Bena Cartmill, Ms Rachelle Robinson, Ms Virginia Simms, Ms Sophie Chandler, A/Prof Robert Smee

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Purpose: As survival rates for patients treated for head and neck cancer (HNC) continue to improve, increasing numbers of survivors are living longer with the effects of treatment. The difficulties patients experience after treatment are complex, and have a multifaceted impact on function. However the issues of greatest concern for patients and the key priorities to address in rehabilitation are largely unknown. Understanding patient need is a critical component of patient-centred care. The aim of this study was to examine a cross-sectional sample of patients early and late post-treatment for HNC to understand their prioritised goals for rehabilitation and if these vary across time.

Methodology: From October 2016 – April 2017, surveys were conducted with 63 patients with HNC who received (chemo)radiotherapy ((C)RT) in either the early (2 weeks – 1 year, $n=29$) or late (2 – 5 years, $n=34$) time points post-treatment. Patients were asked to consider all aspects of their life and report their current top 4 rehabilitation goals.

Results: Survey data was analysed using thematic analysis which identified 10 broad themes. In the early phase, rehabilitation goals focused on swallowing/mealtime experience, recreation/enjoyment, and fitness/energy were most commonly reported, with many referencing returning to 'normal' living. In the long-term, patients' top goals aligned with recreation/enjoyment, improving health, and energy/fitness.

Conclusion: Multidisciplinary allied health support, including speech pathology, physiotherapy, and occupational therapy, is crucial for patients within the first year of (C)RT, with patients identifying swallowing goals, gaining energy, and returning to 'normal' life most frequently. In the long-term, more social and lifestyle-based goals indicate services such as social work and general health/lifestyle programs for healthy living would be beneficial.

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ADHERENCE AND BARRIERS TO TUBE FEEDING DURING TREATMENT FOR HEAD AND NECK CANCER – RESULTS FROM A RCT

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Purpose: Patients with head and neck cancer experience clinically significant weight loss during treatment despite intensive dietetic interventions. The main aim of this study was to investigate patient adherence to nutritional tube feeding recommendations in patients with head and neck cancer and to determine patient barriers to meeting tube feeding prescription.

Methodology: This study was a post-hoc analysis following a randomised controlled trial in patients with head and neck cancer deemed at high nutritional risk with prophylactic gastrostomy (n=125). Patients were randomised to receive early tube feeding prior to treatment (intervention group) or standard care. All patients in the intervention and standard care groups then commenced clinical tube feeding as required during treatment. Patients maintained a daily record of gastrostomy intake, main nutrition impact symptom necessitating gastrostomy use, and reasons for not meeting nutrition prescription. Adherence was defined as meeting $\geq 75\%$ of total prescribed intake.

Results: Patients were predominantly male (89%), median age 60, with oropharyngeal tumours (78%), stage IV disease (87%) treated with chemoradiotherapy (87%). Primary reasons for gastrostomy use were poor appetite/dysgeusia (week 2-3) and odynophagia/mucositis (week 4-7). Early tube feeding adherence was 51%. Clinical tube feeding adherence was significantly higher in the intervention group (58% vs 38%, $p=0.037$). Key barriers to both phases of tube feeding were; nausea, early satiety and treatment factors (related to hospital healthcare processes).

Conclusions: Early tube feeding can improve patient adherence to clinically indicated tube feeding during treatment. Low adherence to tube feeding recommendations overall is a likely explanation for clinically significant weight loss despite intensive nutrition interventions. Optimising symptom management and strategies to overcome other barriers are key to improving adherence and ultimately patients' nutrition outcomes.

IMPACT OF EARLY PROPHYLACTIC FEEDING ON LONG TERM TUBE DEPENDENCY OUTCOMES IN PATIENTS WITH HEAD AND NECK CANCER

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Purpose: Prophylactic gastrostomy tube placement is frequently used in patients with head and neck cancer. There are concerns this leads to tube dependency but this phenomena is not well defined. This study aimed to determine whether an early tube feeding intervention via the prophylactic gastrostomy tube impacted on longer term tube feeding outcomes.

Methodology: Patients with head and neck cancer referred for prophylactic gastrostomy tube placement were observed monthly post-treatment regarding tube use and time to removal up to twelve months. Patients were from a randomised controlled trial comparing an early tube feeding intervention via the prophylactic gastrostomy tube (n=57) versus usual care which commenced feeding when clinically indicated (n=67).

Results: Patient characteristics were predominantly male (88%) with a mean age 60 ± 10.1 years, with oropharyngeal tumours (76%), receiving chemoradiotherapy (82%). Tubes were used by 87% (108/124) on completion of treatment and 66% (83/124) one month post. No differences in tube use between groups at any time point or tube removal rates over 12 months ($p=0.181$). In patients free of disease (n=99), the intervention had higher tube use at 4 months ($p=0.003$) and slower removal rates ($p=0.047$). Overall ten patients had their tube in-situ at 12 months (8%) but five were awaiting removal (4% true dependency rate). Of the five patients legitimately using the tube, only one (<1%) was from severe dysphagia post definitive chemoradiotherapy.

Conclusion: Prophylactic gastrostomy tube use is high in the acute phase post-treatment. Encouraging early use may prolong time to tube removal but it does not increase long term dependency rates beyond four months post treatment. Monitoring tube use is important to prevent over-estimation of dependency rates.

FAT GRAFTING BEYOND THE BREAST: OUR EXPERIENCE WITH AUTOLOGOUS FAT GRAFT IN HEAD AND NECK RECONSTRUCTION

Dr Robert Calvisi, Dr Raja Sawhney

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The use of autologous fat grafting (AFG) following breast reconstruction has become routine practice. More recently the indications for its use have extended to other areas of reconstructive surgery. Although concerns regarding the oncological safety of such procedures has stemmed from in vitro studies, in vivo and clinical studies have been unable to show any association between AFG and cancer risk. We present a series of patients where AFG has been utilized in head and neck reconstruction. Indications included deformity following extirpative surgery, radiotherapy and hemifacial atrophy. We found AFG to have therapeutic benefit for management of contour deformity, as an adjunct to other reconstructive surgery and for rejuvenation of skin following radiotherapy. All of our patients are free from recurrence at a minimum of 18 months follow up. Our case series demonstrates both the safety and the effectiveness of AFG for the treatment of the sometimes crippling deformity suffered by many patients affected by head and neck cancer.

COMPARISON OF ACUTE TOXICITIES AND QUALITY OF LIFE FOLLOWING DOSE ESCALATION IN LOCALLY ADVANCED/ POOR PROGNOSIS LARYNGOPHARYNGEAL CANCERS WITHIN THE INTELHOPE STUDY (CLINICALTRIALS.GOV NUMBER NCT02757222)

Dr Sanjoy Chatterjee, Dr Suchandana Bhaumik, Dr Sudhir Silwal, Dr Arun Pattatheyeil, Mr Sriram Prasath, Dr Indranil Mallick

Tata Medical Center Kolkata, West Bengal, India

Purpose: To report the acute toxicities (AT) and quality of life (QOL) from the feasibility pilot of an ongoing randomised controlled trial comparing the safety and efficacy of a 16.2% dose escalation (DE) (total effective BED 78.9Gy versus 67.92 as standard (S)) in a 18-FDG-PET directed target volume of locally advanced Larynx(L), Hypopharynx(S) and intermediate/high risk Oropharyngeal cancers (OPC).

Method: Histologically confirmed locally advanced non metastatic squamous cell cancer of L/H/OPC are being randomised to either S or DE radiotherapy (66Gy in 30 fractions versus 73.5Gy in 30 fractions) with concurrent weekly cisplatin. Apart from response, patients are being assessed weekly for acute toxicities, until week 8 post starting CTRT and 3-monthly thereafter using CTCAC

v4.03, Xerostomia Scores (XeQOLS), Voice Handicap Index (VHI) and Global QOL (QLQC30 and HN35).

Results: Data comparing S versus DE in the first 30 patients in the feasibility cohort is being reported. There was no differences in haematological toxicities. Among non hematological toxicities in S versus DE, grade 2 mucositis was seen in 42.9% and 37.5%, grade 3 mucositis 57.1% and 62.5%, grade 2 dysphagia in 28.6% and 31.3%, grade 3 in 71.4% and 62.5%, grade 3 dermatitis in 7.1% and 6.3% respectively. At 3 months in S versus DE dysphagia grade 3 was present in 0% and 8.3%, xerostomia grade 1 in 100% and 91.67% with global QOL scores of 74.24 and 66.67 ($p=0.5$) Mean total score for XeQOLS was 1 and 1.36 for S and DE ($p=0.15$), VHI was similar.

Conclusion: Acute toxicities and quality of life data show a similar trend in standard and escalated arms.

QUALITY ASSURANCE RESULTS OF CAROTID SPARING HELICAL TOMOTHERAPY PHASE-2 (CARSREL) STUDY

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Purpose: CARSREL study evaluated the utility of Helical Tomotherapy (HT) to deliver Carotid sparing radiation (CSR) in early glottic cancers (EGC). We report the quality assurance (QA) of the study.

Methodology: Eighteen patients with EGC received 55Gy in 20 fractions over 4 weeks using CSR-HT in the study arm (arm 1) and 18 received standard neck irradiation as the control arm. Clinical target volume (CTV) of the whole larynx in arm1 was expanded by 5mm to get the planning target volume (PTV) and to calculate conformity-indices the volume was edited off the carotids. Dose constraints used were as below: Dose received by the %volume (DV%) of D99%>49.5Gy, D95%>52.25Gy, D50%=55Gy, D5%<57.75Gy and D2%<58.85Gy. Daily image guidance using MVCT and online correction shifts were done. Median shifts were calculated for all 20 fractions x 18 patients (360 images).

Results: Mean dose to the right and left carotids were 12.98 and 12.39 Gy respectively. Mean and median (D50%) doses to the PTV were 56.17Gy (SD: 0.30) and 56.28Gy (SD: 0.43) respectively. Mean D99% and D95% doses were 51.37Gy (SD: 1.05) and 54.49Gy (SD: 0.31). Mean D5% and D2% doses were 57.22Gy (SD: 0.33) and 57.42Gy (SD: 0.39) respectively. Mean conformity and homogeneity indices with CSR were 0.73 (SD: 0.03) and

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6.89 (SD: 2.70) respectively. Median shift in the three translational axes x, y, z and one rotational axis (roll) were -2.95 (Range: -8.60 to 3.83), -0.21 (Range: -7.23 to 15.80), 5.40 (Range: 0.40 to 13.75), 0.43 (Range: -3.00 to 5.70) respectively.

Conclusion: Adequate carotid sparing and optimal target volume coverage was achieved using appropriate quality assurance and image guidance.

QUALITY OF LIFE (QOL) ANALYSIS OF HEAD AND NECK CANCER (HNC) PATIENTS UNDERGOING PAROTID SPARING ADAPTIVE RADIOTHERAPY (PSART) – INTERIM RESULTS OF A PROSPECTIVE LONGITUDINAL STUDY

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Purpose: Parotid sparing intensity modulated radiation improves xerostomia although clinical usefulness of further dosimetric benefits using adaptation (PSART) have not been established. We report the interim QOL data from a prospective single-arm longitudinal study (PARITY) that evaluates the resource intensiveness and clinical QOL outcomes of PSART.

Methodology: HNC patients requiring bilateral neck irradiation were recruited if one or both parotids (index-parotid/s) received a mean dose (MD) between 25-30Gy. Index parotids were delineated on the verification images acquired on 14th and 19th fractions and the difference in MD was calculated. If the MD had increased by 2% of the initial intended dose per fraction (OP), a PSART plan was used to deliver the remaining treatment. Patient-reported QOL information using the EORTC-C30, HN35 and University of Michigan-XeQOLS questionnaires at baseline and at 3-months and 9-months post treatment were recorded.

Results: Among 53 patients recruited so far, 21 required PSART. Overall Xerostomia scores and global health status worsened at 3-months but became better than the baseline at 9-months (p-value: 0.004 and 0.046 respectively). Xerostomia score at 9 months was not significantly different between both groups (PSART – 1.03; OP – 1.59, p=0.391). Those with two index-parotids irradiated had a non-significant worse score at 3-months when compared to one index-parotid (2.28 vs. 1.55, p-value: 0.177). There was no significant difference in the scores if the parotid MD above or below 26Gy (1.22 vs. 1.07, p-value: 0.477), and no association between MD and QOL.

Conclusion: Improvement in QOL occurs post parotid sparing RT but there seems to be no difference between such scores between PSART and OP groups. The incremental clinical benefits of PSART over parotid sparing in OP remains to be proven.

EPIDEMIOLOGY OF HPV-POSITIVE OROPHARYNX CANCERS AND ORAL HPV INFECTION

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Human papillomavirus (HPV) infection has emerged as a major etiologic factor for a subset of head and neck cancers that primarily arise in the oropharynx. Despite notable declines in the prevalence of cigarette smoking in recent decades, the incidence of oropharynx cancers has increased significantly in several developed countries worldwide. Recent molecular epidemiologic studies show that HPV infection is the cause of this recent rise in the incidence of oropharynx cancers. This lecture will review the current state-of-the-science on the epidemiology of HPV-positive oropharynx cancers and of oral HPV infection, the primary cause of these cancers, pathogenesis and natural history of oral HPV infection/ HPV-positive oropharynx cancers, and opportunities for prevention of these cancers.

HOME BASED TELEHEALTH SERVICE FOR SWALLOWING AND NUTRITIONAL MANAGEMENT FOLLOWING HEAD AND NECK CANCER TREATMENT

Mrs Annette Collins, Mr Daniel Best, Dr Clare Burns, Prof Elizabeth Ward, A/Prof Tracy Comans, Ms Claire Blake, Mrs Jane Crombie, Dr Teresa Brown, Dr Lizbeth Kenny, Mr Phil Greenup

Royal Brisbane and Women's Hospital, Queensland, Australia

Purpose: Following completion of (chemo)radiotherapy for head and neck cancer (HNC), patients at the Royal Brisbane and Women's Hospital (RBWH) attend regular joint speech pathology (SP) and nutrition and dietetics (N&D) clinics to support their swallowing rehabilitation and nutritional management. Travelling to these appointments can cause additional patient burden due to acute illness, work commitments, transport issues and financial costs. A home based telehealth service could provide patients with more convenient access to SP and ND services. The aim of this study was to examine the

service outcomes, costs, and clinician and consumer satisfaction of the new telehealth model in comparison to standard care.

Method: Thirty patients consented to the study with 15 patients receiving intervention via standard care and telehealth care respectively. Both groups were matched for medical diagnosis and tumour staging. For standard care, patients attended face to face or phone appointments, while telehealth intervention was provided via a videoconferencing link between the RBWH clinicians and patients in their home using PC/mobile devices. For both models of care service data, patient and service costs and patient/carer/clinician satisfaction questionnaires were completed. Outcomes for the two service models were then compared.

Results: The telehealth model provided greater service efficiency with a significant reduction in the number ($p = .003$) and duration ($p = .002$) of appointments. This resulted in cost savings for both the patients and the health service in comparison to standard care. Consumers were equally satisfied with both models with high levels of satisfaction reported by all participants attending the telehealth service.

Conclusion: A home based telehealth service supports efficient delivery of swallowing and nutrition intervention for patients following HNC treatment.

RESULTS OF A FIVE YEAR QUALITY OF LIFE FOLLOW-UP STUDY OF PATIENTS AT ST VINCENT'S PRIVATE HOSPITAL POST TRANS-ORAL ROBOTIC SURGERY FOR CARCINOMA OF TONGUE BASE AND TONSIL

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Since commencement of the Trans-Oral Robotic Surgery (TORS) program at St Vincent's Private Hospital (SVPH) in November 2011 head and neck cancer patients have partaken in a study of functional outcomes at 3, 6 and 12 months post-operatively. Patients were asked to complete the Head and Neck Cancer Inventory (HNCI), a 30- item 5-point Likert instrument measuring the domains of social disruption, speech, eating, pain/discomfort and aesthetics. Swallowing progress by way of patient-reported diet consistency managed was also recorded at 3, 6, and 12 months post TORS. Clinicopathological data including TNM staging, HPV status, site and type of lesion, medical complications, pre and post-operative radiation therapy, reliance on naso-gastric tube feeding or gastrostomy, and length of stay of the patients was

collated. Results of HNCI scores indicated a high QOL at 12 months with improved functional outcomes over the 3, 6 and 12 month timeframe. This presentation of patients undergoing TORS surgery for tongue base and tonsil carcinoma demonstrates good functional outcomes and a high QOL through minimization of speech and swallow dysfunction.

PREDICTORS OF WEIGHT CHANGES AMONG PATIENTS WITH HEAD AND NECK CANCER AT ST VINCENT'S HOSPITAL (SVH): PRELIMINARY FINDINGS

Ms Amanda Duffy, Dr Mark Halaki, Dr Stephen Cooper, Prof Allan Spigelman, Dr Venessa Chin, A/Prof Richard Gallagher, Prof Victoria Flood

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Purpose: Patients with squamous cell carcinoma of the head and neck (SCC H&N) are often at high risk of nutritional decline. This study analysed presenting BMI and EN use as predictors of weight changes and hospital admissions during radiotherapy. The aim of this preliminary medical record is to provide information about reported nutritional status of patients at diagnosis and predictors of weight changes during treatment.

Methodology: A retrospective study of medical records of patients diagnosed with SCC of the H&N and treated with curative intent radiotherapy between 2012-2014 was conducted. Data on each subject's medical diagnosis, age, sex, chemotherapy, previous surgery and enteral nutrition (EN) use and BMI were examined for their association with weight changes during treatment.

Results: To date, in this preliminary audit, 83 patients have been investigated, mean age=61±11. Among these people, 34 % provided a self-reported history of weight loss at diagnosis. Mean BMI was 26.2±5.3 kg/m² and mean weight changes was -5.1±6.0%. 10 patients used EN via a NG or PEG, with mean weight stabilization during EN use (0.3±5.1%). Multivariate analysis indicated higher presenting BMI and younger age predicted greater weight loss ($p < 0.05$). EN use did not predict overall weight changes during radiotherapy in this model ($p = 0.081$).

Conclusion: Results suggest BMI and younger age are predictors of weight loss during radiotherapy. EN use did not predict overall weight outcomes during radiotherapy. Further analysis will be completed on predictors of hospital admissions during radiotherapy.

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COMPLEX ANTERIOR SKULL BASE RECONSTRUCTION WITH CHIMERIC FIVE COMPONENT SCAPULA TIP

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Purpose: The evolution of reconstructive methods has extended the boundaries of resectability of complex anterior skull base tumours. We highlight a specific case example within our series of free chimeric scapula tip reconstructions using free rib, scapula tip, thoracodorsal artery perforator, parascapula perforator and latissimus dorsi to reconstruct extended anterior skull base defect including sub-total nose, maxillectomy, ethmoidectomy, frontal sinus and orbital exenteration. We aim to illustrate the versatility of this evolving technique and the positive functional and cosmetic outcomes that are possible.

Methodology: A retrospective case review of five patients results. Medical notes were analysed looking at outcomes with an emphasis on function, quality of life and cosmetic scoring.

Results: Excellent functional results were achieved in all our cases, with MD-Anderson-Dysphagia-Inventory (MDAI): 92, Washington Quality of life score 79, with all patients returning to work or normal activity, and little donor-site morbidity, DASH: 18.75 (2.5 to 41.67). In our fifth case instead of using a separate free fibula as in two previous cases, we used a further vascularised rib component within the chimeric flap to reconstruct frontal bar and nasal support. This had the advantage of only one anastomosis and a particularly long pedicle with reduced donor site morbidity.

Conclusion: A chimeric scapular tip flap is ideal for complex anterior skull base reconstruction. It has the advantage of being versatile, with a long pedicle and has multiple constituents that can fit a variety of defects. Having independent paddles allows for extensive composite reconstruction with the possibility of dental rehabilitation. Using vascularised rib as another component of the chimeric flap reduces donor site morbidity and provides an excellent boney framework for difficult reconstruction.

PITFALLS AND RETHINK OF FREE MUSCLE LATISSIMUS DORSI RECONSTRUCTION IN EXTENDED CRANIOPLASTY

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Purpose: Free Latissimus Dorsi flap is a reliable workhorse of reconstruction for excision of scalp defects, specifically for large cutaneous malignancy needing the use of Cranioplasty. Many of these cases require postoperative radiotherapy, which potentially has a significant effect on Cranioplasty reconstruction. The choice of flap for a scalp reconstruction is often governed by defect size and pedicle length. We aim to compare and contrast our experience with muscle only, versus myocutaneous Latissimus Dorsi reconstruction.

Methodology: Consecutive retrospective case series, of medical notes over a ten year period, within one unit. We reviewed our long term outcomes at the Royal Brisbane and Women's Hospital of the use of free Latissimus Dorsi reconstruction for scalp Cranioplasty resections, specifically looking at the affects of radiotherapy, rate of extrusion of Cranioplasty plates and requirement for further reconstructive surgery.

Discussion: Preliminary findings suggest that radiotherapy has a significant impact on rate of extrusion on Cranioplasty plates following Latissimus Dorsi reconstruction and exposed osteoradionecrosis. Management varies but often requires further complex reconstruction.

Results: and experience have lead to changes in clinical practise. Using a selectively placed cutaneous paddle overlying the Cranioplasty plate reduces the morbidity of adjuvant radiotherapy.

Conclusion: Muscle free flap reconstruction with skin graft is considered cosmetically acceptable, reliable and reproducible in the scalp. Postoperative atrophy is a potential concern, especially following radiotherapy. Use of a cutaneous paddle is more challenging but is cosmetically superior in some cases with a more robust reconstruction in the setting where dual modality surgery and radiotherapy is required.

TIME ZERO IN HEAD AND NECK CANCER MANAGEMENT: A BETTER MEASURE OF PRE-TREATMENT WAIT TIME?

Dr Stephanie Flukes, Mr Andrew Lindsay

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Purpose: Head and neck cancer (HNC) is the sixth most common cancer globally. Its incidence in Australia is 4600 per year, and this is increasing. Tumours occur in functionally and cosmetically complex regions, and therefore produce significant morbidity. This morbidity increases as the tumour grows. Time to treatment initiation has repeatedly been shown to correlate with survival benefit. International data shows a wide range of pre-treatment wait times between 25 and 90 days. We aim to quantify the pre-treatment wait times at our institution, and identify factors that influence wait times.

Methodology: A consecutive cohort of patients were identified, with biopsy-confirmed HNC managed at single tertiary referral centre over a 24 month period. Time to treatment initiation was calculated and compared to national and international guidelines.

Results: Three-hundred nine patients meeting inclusion criteria were identified during the audit period. The mean wait time from referral to commencement of definitive treatment was 70.9 days. Patient location (metro versus rural) and tumour site were identified as independent risk factors for increased wait time. Our data show that wait times in our institution are increased compared to national and internally accepted wait times.

Conclusion: This is the first study from Australia demonstrating pre-treatment wait times in HNC. The prolonged wait time compared to international centers is concerning, and warrants further investigation into the clinical impact.

ADAPTIVE SPLIT COURSE RADIOTHERAPY FOR DEFINITIVE TREATMENT LOCALLY ADVANCED SKIN CANCERS OF HEAD AND NECK IS EFFECTIVE, AND ASSOCIATED WITH GOOD COMPLIANCE AND ACCEPTABLE TOXICITY

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Background: Significant skin cancers of the head and neck can occur in patients whose multiple comorbidities can make surgery difficult. Definitive radiotherapy (RT) is an option but these patients can also suffer from decreased mobility, making attending a fully fractionated course problematic. We hypothesized that, as these cancers are

visible on the skin, this facilitates careful monitoring, and that definitive radiotherapy with Adaptive Split Course Radiotherapy (ASCRT), with hypofractionated RT given in two phases separated by 6-8 weeks, could be done safely in select patients for whom a continuous course of treatment may be too arduous.

Method: Ten patients with locally advanced skin cancers were treated with definitive RT via ASCRT. GTVs were calculated for phase one and two, and the volume reduction noted. Completion of the prescribed RT course was measured. Acute effects were measured after each phase.

Results: All patients completed the course with complete response (CR) or had a CR between phases making the second phase unnecessary. All patients had an average GTV reduction between phase one and two of 60%, enabling reduction of the integral volume. There were no grade 3 acute effects.

Implications: To our knowledge, this is one of the first report on the curative use of ASCRT for skin cancer. The findings of this study indicate that ASCRT is an effective modality for the treatment of skin cancers in select patients, especially those who would struggle with surgery or a fully fractionated course of RT.

IDENTIFYING A POOR PROGNOSTIC SUBGROUP IN HEAD AND NECK SQUAMOUS CELL CARCINOMA USING FDG-PET SCANS PERFORMED BEFORE AND DURING RADIATION TREATMENT

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Purpose: This study evaluated the prognostic value of metabolic parameters derived from FDG-PET performed before and during definitive radiation therapy (RT) in patients with mucosal primary head and neck squamous cell carcinoma (MPHNSCC).

Methodology: One hundred patients with MPHNSCC treated with radical RT had FDG-PET scans performed prior to RT (pre-PET) and in the third week of treatment (i-PET). Metabolic Tumour Volume (MTV) and Total Lesional Glycolysis (TLG) of primary tumour were assessed for both pre-PET and i-PET and results correlated with loco-regional recurrence free survival (LRFS) using Kaplan-Meier analysis. Optimal Cut-offs (OC) for pre-PET and i-PET were derived from Receiver Operating Characteristic curves.

Verbal Presentation Abstracts (cont'd)

Results: Mean primary MTV on pre-PET was 17.6mL and 4.0mL on i-PET, a reduction of 77.2%. Mean TLG was 89.1g on pre-PET and 14.2g on i-PET. Two year LRFS for TLG above and below OC on pre- PET was 87.3% and 80.1%, respectively, ($p=0.073$). Two year LRFS for TLG above and below OC for i-PET was 94.0% and 82.1% respectively ($p=0.003$). Two year LRFS for TLG above and below OC for pre-PET and i-PET combined (com-PET) was 84.4% and 77.5%, respectively ($p=0.007$). Forty of the 100 patients were in the poor prognosis com-PET group. A decision tree was constructed to incorporate i-PET outcomes into a Quality Assurance (QA) workflow and as a platform for future research.

Conclusion: i-PET in addition to a PET scan performed prior to radiation treatment has potential for a twofold advantage. I-PET in combination with pre-PET best defines a poor prognosis subgroup using TLG measurement. The much smaller residual MTV on i-PET may be an appropriate dose escalation target.

COMPOSITE FACIAL AND SCALP RESECTION: A REVIEW OF 225 CONSECUTIVE CASES

Dr Daisy Frankcombe, Prof Jonathan Clark,
A Prof Sydney Ch'Ng

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Background: The face and scalp are commonly affected by skin cancers. Successful treatment relies on a fine balance between adequate oncological resection and skillful reconstruction to as closely as possible restore cosmesis and function. It needs to take into consideration prognosis, adjuvant therapy and quality of life.

Methodology: A review of our (J.C. and S.C.) prospectively maintained databases was carried out of composite facial and scalp resection and reconstruction cases. Data on demographics, pathology, treatment, complications, disease recurrence and survival outcomes were culled.

Results: Our review revealed a total of 225 patients [male: female = 159: 39, median age 71 years, (range 31 – 97), median follow-up period 10 months (range 0 – 68). Squamous cell carcinoma was the most common pathology (61%), followed by basal cell carcinoma (14%), melanoma (8%), and others (8%). Fifteen percent of these patients were immunocompromised, including 2% who were organ transplant recipients. Underlying bony/cartilage resection featured in 52% of cases. Fifty-five percent of cases underwent free flap reconstruction.

The facial nerve was partially sacrificed in 11% of patients, and completely in 2%. All patients had immediate facial reanimation. Postoperative adjuvant radiotherapy was administered to 49% of patients. Disease recurrence affected 19% of patients at a median period of 10 months (range 1 – 39) following surgery. Five-year disease specific survival was 95%. Six percent of patients underwent unplanned re-operation for improvement of cosmesis and/or function.

Conclusion Our review validates our general philosophy of surgery followed by postoperative radiotherapy if required, aggressive ablative surgery and low threshold for comprehensive and sophisticated reconstruction.

TECHNICAL REFINEMENTS IN COMPOSITE FACIAL AND SCALP RESECTION AND RECONSTRUCTION: 225 CONSECUTIVE CASES

A Prof Sydney Ch'Ng, Prof Jonathan Clark,
Dr Daisy Frankcombe

Institute of Academic Surgery at Royal Prince Alfred Hospital, University of Sydney, and the Chris O'Brien Lifecare Cancer Centre, New South Wales, Australia

Background: The face in how an individual is first perceived by the world. It allows expression of emotions wordlessly. It also contains highly specialised structures for protection of vision, facilitation of speech and enabling of chewing.

Methodology: A review of our (S.C. and J.C.) prospectively maintained databases was carried out. The clinicopathologic, surgical and complication data were studied.

Results: Two hundred and twenty-five cases of composite facial and scalp resection and reconstruction [male: female = 159: 39, median age 71 years, (range 31 – 97), median follow-up period 10 months (range 0 – 68)] were identified. Within this cohort of patients, 6.45% of patients underwent repeated surgery (average 1.57) for improvement of cosmesis and function. Commonest reasons for revision surgery were flap debulking, fat grafting, ectropion, exposed cranioplasty plate, inadequate projection for nasal reconstruction, and scar revision.

Conclusion: The principles that underlie our reconstruction for advanced facial and scalp defects, and the technical refinements that have evolved in our practice over time will be presented.

PEG DEPENDENCY TRENDS OVER A 15 YEAR PERIOD FOR MUCOSAL HEAD AND NECK CANCER PATIENTS TREATED AT A LARGE TERTIARY REFERRAL CENTRE

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Purpose: The validity of using prophylactic Percutaneous Endoscopic Gastrostomies (pPEGs) to nutritionally support head and neck (H+N) cancer patients receiving chemoradiation continues to be controversial due to a perceived risk of ongoing PEG dependency. This research aimed to determine rates of PEG dependency at the Calvary Mater Newcastle (CMN) where pPEGs are routinely used and to identify potentially modifiable risk factors.

Methodology: Records from 250 patients with H+N cancer treated at CMN from 2000-2015 with pPEGs were reviewed.

Results: There were 16 patients who still required a PEG 12 months after treatment (6%), while 8 of these (3%) never weaned. Multivariate analysis and backward elimination demonstrated greater T size (T4 or synchronous H+N primaries) [OR6.7 (95%CI 2.16-22.41) $p<0.001$] and number of days Nil By Mouth (NBM) [OR1.01 (95%CI 1.004-1.024) $p=0.004$] were significant independent risk factors for PEG dependency at 12 months. When controlled for T stage, PEG dependency at 12 months following treatment was also significantly associated with mortality [OR3.4 (95%CI 1.28-9.24) $p=0.015$]. Patients had more NBM days on average with larger T size tumours [+22 days (95%CI 10.37-33.04; $p<0.001$); and less NBM days with Intensity Modulated Radiation Therapy (IMRT) [average -13.26 days (95%CI -22.82 to -3.7) $p=0.007$] and Speech Pathologist involvement during treatment [average -11.93days (95%CI -22.4 to -1.45) $p=0.026$].

Conclusion: Prophylactic PEGs have not resulted in significant rates of PEG dependency at CMN. NBM days were identified as a potentially modifiable risk factor and were positively influenced by IMRT and Speech Pathology intervention during treatment.

OUTCOMES FOR HEAD & NECK CANCER PATIENTS ADMITTED TO INTENSIVE CARE IN AUSTRALIA AND NEW ZEALAND BETWEEN 2000 AND 2015

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Purpose: Little evidence surrounds post-operative critical care management of head and neck cancer (HNC) patients despite major surgery and high-risk medical co-morbidities. This study describes characteristics, epidemiology, illness severity and outcomes of HNC patients admitted to Australia and New Zealand ICUs from 2000-2015.

Method: The Australian and New Zealand Intensive Care Society Centre for Outcome and Resource Evaluation Adult Patient Database was used to assess all patients admitted to ICU after head and neck cancer surgery from January 2000 and June 2016. Primary end-point was in-hospital mortality. Secondary end-points were: ICU mortality, ICU length of stay (LOS), and hospital LOS. A multivariable logistic regression model was constructed to assess adjusted in-hospital mortality risk.

Results: 10,721 HNC patients were identified from 154 ICUs. Annual admissions increased from 348 in 2000 to 1132 in 2015. Median patient age was 64 years, and 71.6% male. Patients were mainly public (76.4%) and admitted from theatre (96.9%). 43.6% were mechanically ventilated. In-hospital mortality was low (2.7%) and ICU mortality was 0.7%. Median ICU admission was 1.04 days [IQR 0.80-2.40], and median hospital admission 11.7 days [IQR 5.54-20.4]. Crude in-hospital mortality fell; 5.7% (95% CI, 3.0-8.0) in 2000 to 1.8% (95% CI, 1.0-3.0) in 2015. In multivariable modeling, adjusted risk of dying in hospital declined significantly (OR 3.37 (1.74-6.50) in 2000 vs OR 1.07 (0.57-2.03) in 2014).

Conclusion: Despite more post-operative ICU admissions, in-hospital HNC mortality declined over a 16-year period. Given low ICU mortality and longer ward LOS, peri-operative interventions and resource allocation outside ICU may further improve outcomes.

Verbal Presentation Abstracts (cont'd)

INTRODUCTION OF A SPEECH PATHOLOGY ASSISTANT ROLE FOR SWALLOW SCREENING IN A HEAD AND NECK RADIOTHERAPY CLINIC

Dr Jacqui Frowen, Mr Rhys Hughes, Dr Nicole Kiss

Peter MacCallum Cancer Centre, Victoria, Australia

Purpose: It is generally considered best practice that all moderate-high risk head and neck patients are seen by a speech pathologist for assessment and education when commencing definitive or post-operative radiotherapy. However this is not always feasible in many centres. This study aimed to investigate the effectiveness of a speech pathology assistant (SP-A) role for swallowing screening and education for specific patients in a multidisciplinary head and neck treatment clinic.

Methodology: A training module was established to up-skill the SP-A and guide the screening and education to be undertaken. A pre-test post-test design was utilised comparing outcomes in two separate groups prior to and then following implementation of the SP-A role.

Outcomes included: compliance with best practice, availability of speech pathology time for complex patients, swallowing-related admissions and patient satisfaction.

Results: Fifty-one patients were included pre-implementation and 35 patients post-implementation, with 16 (46%) patients identified for SP-A screening/education. The proportion of moderate-high risk patients seen by speech pathology pre-implementation was 63%, compared to 94% seen by either speech pathology or SP-A post-implementation, $\chi^2(1, N=61) = 9.244$, $p=0.002$. There was a (non-significant) increase in speech pathology time spent with complex post-operative patients post-implementation (mean 279 minutes, $SD=115$, vs 252 minutes, $SD=144$, total per patient). There was no increase in swallowing-related admissions, and a (non-significant) increase in patient satisfaction post-implementation, indicating no compromise to patient safety or satisfaction by implementing the SP-A role.

Conclusions: The implementation of a speech pathology assistant role for screening specific patients within the multidisciplinary head and neck treatment clinic allowed the delivery of best practice and increased time for speech pathologists to spend with complex patients, without compromising patient safety or satisfaction.

QUALITY OF LIFE, SELF-REPORTED AND PHYSICAL FUNCTION OF THE NECK AND UPPER LIMB AFTER NECK DISSECTION: A PROSPECTIVE LONGITUDINAL STUDY

Ms Elise Gane, A/Prof Steven Mcphail, Dr Anna Hatton, Prof Benedict Panizza, Dr Shaun O'Leary

The University of Queensland, Queensland, Australia

Purpose: To measure the change in quality of life (QOL), self-reported and physical measures of upper limb and neck function, in patients prior to undergoing neck dissection, and at 6 months and 1 year post-surgery.

Methodology: Fifty-five patients (male $n=44$, median age 58 years) were recruited from two hospitals across Brisbane, Australia. QOL was measured with the Neck Dissection Impairment Index (NDII). Disability was measured with the Quick Disabilities of the Arm, Shoulder and Hand (QuickDASH) and the Neck Disability Index (NDI). Neck and shoulder strength (dynamometer) and mobility (inclinometer) were also measured. Linear regression was used to examine differences between time points and neck dissection type.

Results: QOL reduced over time, from a median (Q1, Q3) NDII score of 100(95, 100) pre-surgery to 85(60, 98) at 1yr ($p<0.001$) and disability increased at the upper limb (QuickDASH pre: 0[0,5] to 1yr: 9[5,30]; $p<0.001$) and neck (NDI pre: 2[0,8] to 1yr: 8[2,26]; $p<0.001$). Participants who underwent bilateral surgery had significantly worse QOL and upper limb and neck disability (all $p<0.02$) compared with unilateral selective neck dissection. At 1 year post-surgery, reductions in active neck extension range (pre: 52°[44°,60°] to 1yr: 41°[30°,54°]; $p<0.001$) and shoulder abduction (pre: 152°[142°,164°] to 1yr: 146°[118°,156°]; $p<0.001$) were observed. Males were significantly weaker ($p<0.05$) in shoulder and neck flexion at 6 months and 1yr, following surgery. Neck dissection type did not have an impact on neck or shoulder range or strength.

Conclusion: At 1yr post-neck dissection patients not only report reduced QOL and increased neck and shoulder disability, but they also demonstrate physical impairment of the neck and shoulder. Pre-and post-operative rehabilitation planning may need to consider these long-term musculoskeletal side-effects.

CLINICAL CHARACTERISTICS OF PATIENTS REQUIRING NASOGASTRIC TUBE FEEDING DURING RADICAL HEAD AND NECK CANCER TREATMENT

Ms Sarah Gilliland, Ms Rose Rocca, Ms Elise Den, Ms Kirsty Rowan, Ms Emma Mckie

Peter MacCallum Cancer Centre, Australia

Purpose: Peter MacCallum Cancer Centre is a specialist facility treating approximately 400 patients with head and neck (H&N) cancer each year. Patients with H&N cancer often require enteral feeding to provide adequate nutrition during (chemo)radiotherapy treatment due to the acute toxicity of treatment. This audit aimed to identify clinical characteristics of the patients requiring nasogastric tube (NGT) feeding during radical (chemo)radiotherapy treatment for H&N cancer.

Methodology: A prospective data collection over a 6-month period was completed of all patients who required NGT insertion during or post treatment. Outcomes included duration of NGT feeding, timing of insertion of NGT, diagnosis, and weight change during and post-radiotherapy.

Results: The sample comprised 42 patients, mean (SD) age 59.48 (11.60) years and 64% (n=27) were male. Oropharyngeal cancer was the tumour type in 67% (n=28) of patients. NGT feeding commenced a median (IQR) of 5 (4 to 5) weeks after treatment commencement and was removed 4 (3-6) weeks post treatment completion. Median (IQR) duration of feeding was 6 (3-8) weeks. Significantly more weight (median (IQR)) was lost during treatment, weight change (%) -6.06 (-8.22 to -4.37), than in the 4 weeks following treatment completion, weight change (%) -1.28 (-4.08 to .70), $p < 0.001$. Those with oropharyngeal cancer lost significantly more weight during treatment than other tumour types ($p = 0.001$), but did not differ in duration of feeding.

Conclusion: Patients with oropharyngeal cancer are the more likely than any other tumour type to require NGT feeding when receiving radical (chemo)radiotherapy treatment. This information can assist in educating patients about the likelihood for NGT insertion, the timing of insertion and duration of feeding.

PROGNOSIS OF METASTATIC SQUAMOUS CELL CARCINOMA OVER THE LAST 30 YEARS

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Purpose: Australia has the highest rate of metastatic Head and Neck cutaneous squamous cell carcinoma (HNCSCC) in the world. Given the impact on quality of life and the significant burden on health resources it is important to know whether disease outcomes have improved or deteriorated over time.

Methodology: All patients with metastatic HNCSCC were identified retrospectively from SHNCI database (1987-2016). Patients were grouped into six-year blocks from 1987 and disease specific survival (DSS) and overall survival (OS) were analysed. Estimated survivals were calculated using the Kaplan Meier method, and results were compared with log-rank and Cox regression.

Results: There were 401 cases of metastatic HNCSCC treated between 1987 and 2016. Over this period of time, there has been an increase in the proportion of elderly patients (> 75 years $p = 0.006$) and the rate of adverse prognostic features including median node size ($p = 0.047$) and number of involved nodes ($p = 0.027$). Whereas the rate of adjuvant radiotherapy (RT) and comprehensive neck dissection has decreased ($p = 0.014$ and $p < 0.001$, respectively). Despite this, DSS improved over the last 30 years from 52% in 1987-92 to 89% from 2011-2016 ($p < 0.001$). This was particularly evident in those treated with surgery followed by RT ($p = 0.004$), patients with Extracapsular spread or soft tissue deposits ($p < 0.001$), and in patients with single positive node (OS $p = 0.003$ and DSS $p < 0.001$). On multivariable analysis, DSS has improved over time (HR 0.46 per 10 years, 95% CI 0.324-0.672, $p < 0.001$) after adjusting for the effect of age, presence of STD/ ECS and adjuvant RT.

Conclusion: Despite the disease process worsening and treatment becoming less aggressive over the last 30 years, prognosis for metastatic HNCSCC appears to have improved.

Verbal Presentation Abstracts (cont'd)

RNA SEQUENCING OF METASTATIC CUTANEOUS SQUAMOUS CELL CARCINOMA WITH NANO-STRING

Dr Tharsiga Gnanasekaran, Ms Elahe Minaei, Mr Jay Perry, Mr Bruce Ashford, Ms Sara Gabrielli, Dr Anthony Gill, Prof Jonathan Clark, A/Prof Ruta Gupta, Prof Marie Ranson

Chris O' Brien Lifehouse, New South Wales, Australia

Aims: Cutaneous squamous cell carcinoma (cSCC) is one of the most common malignancies in Australia. Approximately 5% of head and neck cSCC (HNcSCC) metastasise to regional lymph nodes which increases the morbidity and mortality for those patients. Current clinicopathological predictors of metastases have a low predictive value, hence it would be of great benefit to have an accurate biomarker of metastatic potential.

Methodology: Tissue was harvested from the resection specimens of patients with HNcSCC excised as part of the ablative operation. Samples with >35% tumour cellularity were selected. RNA extraction was performed after homogenization using the Miltenyi Gentle MACS tissue homogenizer system. The panCancer Progression kit was used to analyse RNA expression of 770 genes known to be involved in metastasis on the Nanostring nCounter Analysis System. The gene expression of 12 metastatic cSCC taken from lymph nodes was compared with 8 samples of primary cSCC and 2 samples normal skin.

Results: The KRT14, SLPI, S100A7, RPS27A, ANXA2P2 and genes associated with the collagen family were the most highly expressed genes in the metastatic cSCC samples. There was higher expression of Tp53 in metastatic cSCC than in cSCC. The gene expression of JAG, NOTCH 1 and CDKN2A were higher in the metastatic cSCC samples than the SCC samples. Of the RAS family, KRAS gene expression was highest in both the primary and metastatic cSCC samples.

Conclusion: These preliminary results highlight the differences in the gene expression between normal skin, primary cSCC, metastatic cSCC and thus provide an early insight into mechanisms of molecular progression.

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RECONSTRUCTION OF RADICAL PAROTIDECTOMY DEFECT WITH CHIMERIC ANTEROLATERAL THIGH FLAP

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The Chris O'Brien Lifehouse, New South Wales, Australia

Introduction: Tumor extirpation in radical parotidectomy results in a complex facial defect. The approach to post parotidectomy reconstruction continues to evolve. A paucity of data led us to investigate in this study the outcome of using chimeric anterolateral thigh (ALT) flap in radical parotidectomy.

Method: Medical records of cancer patients who had undergone radical parotidectomy were reviewed between March 2013 - May 2017 using the Sydney Head and Neck Cancer Institute database. Adults who only had chimeric ALT flap for radical parotidectomy were included. The outcomes investigated included return of dynamic function, duration to dynamic function and donor site morbidity.

Results: A total of 25 patients were identified with a mean age of 71.3 years. The mean follow-up period was 3.1 years. A majority (72%) had existing facial nerve palsy with 80% receiving adjuvant radiotherapy. Facial nerve was divided at the trunk in most of the cases (80%) with use of motor nerve to vastus lateralis as cable graft in 56%. Flap failure occurred in only one case. Donor site complications included 3 cases of seroma, one case of cellulitis, and two cases of wound dehiscence. A total of 12 (48%) patients showed return of muscle activity with 7 of them demonstrating spontaneous activity. The mean duration to acquisition of activity was 11.5 months with onset as early as 1-month.

Conclusion: The ALT free-flap offers a versatile option for soft-tissue defects with access to motor nerves optimal for grafting. Through a single-stage procedure patients can undergo immediate contour restoration and facial reanimation with minimum morbidity.

PHARYNGOLARYNGECTOMY WITH JEJUNAL FREE FLAP RECONSTRUCTION – A TERTIARY CENTRE’S REVIEW

Dr Courtenay Henrys, Dr Thomas Slaughter,
Prof Benedict Panizza

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Aims: To evaluate the outcomes of patients undergoing total pharyngolaryngectomy (TPL) with jejunal free flap (JFF) reconstruction for hypopharyngeal carcinoma. Primary endpoints include clinicopathological data, 2 and 5 year survival rates, peri-operative morbidity and survival trends from 1979 to 2013.

Methodology: Retrospective analysis of all TPL performed at the Princess Alexandra Hospital from 2003 to 2013. Eighty-nine consecutive patients underwent TPL with JFF reconstruction for hypopharyngeal SCC. Seven salvage TPL were excluded and analysed separately. Laryngeal carcinomas extending into the hypopharynx were included. Clinicopathologic parameters were measured and survival calculated using Kaplan Meier method.

Results: Eighty-six (96.7%) patients had T3/T4 stage disease and 78 (87.6%) demonstrated nodal involvement. This is in contrast to previous data from 1979 to 2002 with only 122 of 180 patients (67.8%) presenting with T3/T4 disease. All patients presented with overall stage 3 or 4 disease. Disease recurrence occurred in 49 (52.8%) patients, up from 40.5% in previous decades. Thirty seven (41.6%) patients died secondary to primary malignancy. In the postoperative period 47 (52.8%) patients experienced complications, 19 (21.3%) returned to theatre and there was 1 reported death. Predictors of poor survival will be discussed.

Conclusion: Hypopharyngeal cancer historically carries a poor prognosis. Late presentations, often multiple comorbidities, combined with radical operative resection, all attribute to a challenging treatment paradigm. Advances in chemoradiotherapy protocols have lead to a shift in treatment for early stage tumours towards chemoradiotherapy. As such our centre has seen a significant transition away from TPL for early stage tumours with the majority of surgical cases being T3/T4 tumours. This change in surgical cases is represented in the long-term outcomes and complication rates.

MODIFYING THE CLINICAL USE OF A NOVEL PKC-ACTIVATING DRUG

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Dr Glen Boyle, Prof Peter Parsons

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Purpose: Head and neck SCC (HNSCC) poses a large global disease burden, being the 5th most common malignancy worldwide. Treatment options are intensive and disfiguring, with high associated morbidity and mortality. Unfortunately despite recent medical advances, there has been minimal improvement in survival statistics over the last 2 decades and 5-year survival remains between 65 and 70%. A novel PKC activator, EBC-46, is being developed for intra-tumoural injection of cutaneous and subcutaneous malignancy and has shown promising results in Phase I clinical trial. We aimed to evaluate the anti-tumour efficacy of four synthetic derivatives (EBC-1040, EBC-1073, EBC-1074, EBC-1075) of EBC-46 in a HNSCC mouse model.

Methodology: Efficacy of derivatives was tested against a number of human HNSCC cell lines in vitro, and in two mouse models in vivo; a synergistic model - C3H/HEN mice with UV13.1 tumour cells, and a xenograft model - Balb/c nude mice with SCC-15 tumour cells. An ex vivo metabolism study was performed to determine the breakdown products in human whole blood.

Results: In vitro cell survival assays demonstrated that EBC-1040, EBC-1073, EBC-1074 and EBC-1075 perform with similar efficacy to EBC-46. In vivo, each compound with the exception of EBC-1075 produced efficacious anti-tumour activity similar to EBC-46 at two different doses. In human whole blood, each compound is rapidly metabolised into EBC-46.

Conclusion: Modifying the C-20 hydroxyl on EBC-46 does not alter the compound's anti-tumour efficacy on intra-tumoural injection. A noted disparity in dose range required for efficacy in vitro compared to in vivo, suggests that host defences play a synergistic role. Further investigation is to be performed to determine if alteration of the C-20 increases the availability of EBC-46 at the injection site.

Verbal Presentation Abstracts (cont'd)

"SCREENIT CARER": COMPUTERISED SCREENING OF DISTRESS IN CARERS OF HEAD AND NECK CANCER PATIENTS RECEIVING (CHEMO)RADIOTHERAPY

Miss Alana Hutchison, Mr Jeff Dunn, Ms Jodie Nixon, Ms Jane Whelan, Mr Sandro Porceddu, Miss Laurelie Wall, Ms Bena Cartmill, Mrs Elizabeth Ward, Mrs Rebecca Nund, Mrs Annie Hill, Mrs Elizabeth Isenring, Mr Joshua Byrnes, Ms Suzanna Chambers

Queensland Health, Queensland, Australia

Background: Evidence indicates carers of patients with head and neck cancer (HNC) receiving (chemo) radiotherapy (CRT) experience distress and negative psychosocial effects related to caregiving, sometimes at greater severity levels than patients themselves. However, the specific nature of carer distress during (C) RT, and how this distress may change over time has not been well elucidated. The current study aimed to examine the prevalence/nature of generic and mealtime-specific distress in carers of patients undergoing chemoradiotherapy (CRT) for HNC using a novel computerised screening tool – "ScreenIT Carer". The secondary aim was to explore changes in the severity and nature of this distress longitudinally during (C)RT.

Method: A cross-sectional cohort of carers (n = 40) completed ScreenIT Carer during (C)RT, which included: the NCCN Distress Thermometer (DT) and Problem List for general distress, the DT and a modified stimulus list for mealtime-specific distress; and carer-reported need for referrals to supportive care services to manage distress. A separate longitudinal cohort (n = 23) completed ScreenIT Carer prospectively during (C)RT at 3 key time-points: planning, early during (C)RT (weeks 1-3), and late during (C)RT (weeks 4-7).

Results: Cross sectional data revealed high rates of general (45%) and mealtime-specific carer distress (45%) during (C)RT. Longitudinally, there was significant (p=0.004) worsening of carer mealtime distress observed between planning and early CRT (weeks 1-3). No significant effect of time was observed for general distress.

Conclusions: A high proportion of carers of patients undergoing CRT for HNC experience general and mealtime-related distress, with mealtime distress levels worsening during treatment. The current study supports the need to screen for carer distress and provide appropriate supportive care services for carers of HNC patients undergoing CRT.

LYMPHOEDEMA IN HEAD AND NECK CANCER PATIENTS: THE LIVED EXPERIENCE

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Purpose: Head and neck lymphoedema may persist long-term and be functionally and psychologically debilitating for those affected patients. To understand the extent of these issues, this study used a qualitative methodology to explore the patients' lived experiences of lymphoedema.

Methodology: Semi-structured, in-depth interviews were conducted with 12 head and neck cancer (HNC) patients with persistent head and neck lymphoedema. These patients had been treated with postoperative, definitive or chemo-radiation; and were a minimum of three months post treatment. Key phrases and themes were identified using thematic analysis; and participant checking questionnaires were utilised to confirm the findings.

Results: Five main themes were identified which captured the lived experiences of patients with head and neck lymphoedema. These included: (1) it feels tight; (2) it changes throughout the day; (3) when you have the swelling it's harder to function; (4) I was shown how to massage my face and neck; and (5) over time I've noticed it gradually decreasing. Within the third theme, a number of unique subthemes emerged relating to the impact of lymphoedema on swallowing, voice and speech. Most patients reported that their lymphoedema made it harder to swallow; whilst some reported deterioration in vocal quality and articulatory precision. However, it also emerged that these issues were multifactorial and it was difficult to determine the impact of lymphoedema alone.

Conclusion: These novel findings highlight that head and neck lymphoedema may contribute to swallowing, voice and speech dysfunction in HNC patients. Further research is required to determine the nature and course of head and neck lymphoedema and its functional impact. Such data is also needed to inform the speech pathologists role in the management of head and neck lymphoedema.

PROPHYLACTIC VERSUS REACTIVE GASTROSTOMY TUBE PLACEMENT IN HEAD AND NECK CANCER PATIENTS

Dr Stephen Kao, Dr Matthew Marshall-Webb, Dr Nuwan Dharmawardana, Dr Andrew Foreman, A/Prof Eng Hooi Ooi

Flinders Medical Centre, South Australia, Australia

Purpose: Gastrostomy tubes are important adjuncts in maintaining nutrition in head and neck cancer patients undergoing treatment for their head and neck cancer. This study aims to investigate differences in nutritional status, readmission rates, gastrostomy dependency and complication rates in patients managed with prophylactic versus reactive gastrostomy insertions in tertiary head and neck cancer centres in South Australia.

Methodology: A retrospective chart review was performed on patients with a head and neck mucosal squamous cell carcinoma, treated with non-surgical therapy, receiving a gastrostomy tube at Flinders Medical Centre and Royal Adelaide Hospital between January 2010 to December 2015. The primary outcomes were weight changes and gastrostomy dependency. Secondary outcomes included complication rates between PEG and RIG insertions and readmission rates between prophylactic and reactive gastrostomy tubes. Prophylactic is defined by the MDT decision to insert the tube prior to treatment and reactive was insertion of the tube in response to patients weight loss undergoing cancer treatment.

Results: 104 patients were identified in this study. Immediately post treatment, patients in both groups were found to have a median weight loss of 5kg. Pre-treatment weights were found to correlate significantly with all time points. Prophylactic gastrostomy tubes remained in-situ for a median 174 days compared to reactive gastrostomy tubes which remained in-situ for median of 249 days ($P=0.39$). A total of 59 complications occurred in 42% of patients following their gastrostomy tube insertions, of which 16% had PEG and 26% had RIG insertions.

Conclusion: Patients lost weight during treatment demonstrating the importance of optimising pre-treatment nutritional status on weight maintenance. Patients with prophylactic gastrostomy tubes placed had their tubes in-situ for a shorter period compared to those placed 'reactively'.

HOW TO MAKE IT IN CLINICAL RESEARCH

CSL Centenary Fellow: A/Prof Steven Lane

Becoming qualified in your specialty is no walk in the park. Why then, after so many years of effort, would you want to get involved in research anyway? I never wanted to be a researcher. I really only wanted to look after patients, and perhaps to teach students and junior fellows. However, a number of important realisations and opportunities opened my eyes to life as a clinician-scientist. For example, the discovery of oncogenic driver mutations in certain types of cancer can transform rapidly fatal malignancies into a chronic condition with >95% long term survival. Immunotherapies now offer hope of cure in disseminated melanoma and other cancers. These types of discoveries have the potential to impact many thousands of patients and change the landscape of our healthcare system.

In this session, I will discuss what are the potential benefits of clinical, translational or basic biological research – both for patients, but also for you as the treating practitioner? What are the best ways to get exposure to research programs? What opportunities are there for funding research fellowships? What are the downsides to a career in research?

THE EFFECTIVENESS OF DIETARY INTERVENTIONS DURING (CHEMO-) RADIOTHERAPY

Dr Jacqueline A E Langius

VU University Medical Center Amsterdam and The Hague University of Applied Sciences

Patients with head and neck cancer often present with dysphagia, swallowing problems and pain in the mouth. As a consequence, patients have trouble eating foods of normal consistency and do not meet their daily nutritional needs. During and after (chemo)radiotherapy, food intake is further negatively impacted by acute and late toxicities. As a consequence, malnutrition is common in patients with head and neck cancer.

Management of malnourished patients starts preferably with a comprehensive evaluation of the patient's nutritional status by nutritional assessment including anthropometry, biochemical parameters, clinical and physical assessment, and dietary intake. This assessment provides the basis for an individually adjusted dietary intervention, taking into account all aspects of nutritional status, the therapeutic interventions and patients' needs and values. The individualised intervention consists ideally of repeated counselling by a dietician to reach the

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individual nutritional requirements of a patient through normal food products. If required, additional energy and protein enriched nutritional supplements or tube feeding is advised. This individual approach aims to prevent the patient from nutritional deficits, to preserve body weight and muscle mass, to contribute to recovery and to maintain quality of life.

Individualised dietary counselling by a dietician during (chemo)radiotherapy has beneficial effects on both nutritional status and quality of life, compared to no counselling or nutritional advice by a nurse. The effects of solely supplementation of protein and energy-enriched supplements or tube feeding are inconsistent. However, tube feeding might be a solution in case of persistent inadequate intake. Intensive dietary counselling might contribute to prevention and tailored management of malnutrition in patients with head and neck cancer, in order to reduce disease-burden and improve quality of life.

THE IMPACT OF NUTRITIONAL STATUS ON TREATMENT OUTCOMES

Dr Jacqueline A E Langius

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Of all cancer patients, patients with head and neck cancer are at the highest risk for malnutrition. Malnutrition can be defined as 'a state resulting from lack of intake or uptake of nutrition that leads to altered body composition (decreased fat free mass) and body cell mass leading to diminished physical and mental function and impaired clinical outcome from disease'.¹ Weight loss is one of the prominent markers for deterioration in nutritional status.

Pre-treatment malnutrition, mainly due to complaints induced by the tumour localization, is found in 19-52% of patients, especially in patients with tumours of the oral cavity and pharynx. During therapy, nutritional status often further declines as a consequence of discomfort and difficulties in eating caused by treatment-related toxicities. The proportion of malnourished patients rise during therapy to 34-88%.

Malnutrition is associated with a wide range of physiological and clinically relevant side effects, like lower physical functioning, impaired immune status, more severe (grade III/IV) late radiotherapy-induced toxicities, treatment interruption of chemo(radio) therapy, lower chemotherapy response rates, postoperative complications and hospital readmission. Consequently, malnutrition causes longer hospitalisation and increased healthcare costs. Several studies also showed that pre-treatment malnutrition is negatively associated with the two main endpoints in the outcome of head

and neck cancer, quality of life and survival. However, not only pre-treatment malnutrition, also deterioration in nutritional status during the relative short period of (chemo)radiotherapy has negative impact on patients' quality of life and prognosis. As a diminished nutritional status severely impacts on patients' outcomes, effective prevention and management of malnutrition is important in patients with head and neck cancer.

¹ Sobotka L, (editor). Basics in clinical nutrition. 4th ed. Galen; 2012.

METASTATIC BASAL CELL CARCINOMA: A REVIEW OF SIX CASES

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Purpose: Basal cell carcinomas (BCCs) are locally invasive skin neoplasms of cells in the epidermal basal layer, representing 70% of all skin cancers in Australia, with a 30% lifetime risk of development. Whilst BCC metastasis has a documented incidence of only 0.0028 to 0.5%, there is significant morbidity & mortality associated with such a diagnosis. It has been suggested that certain features may be used to predict metastatic spread, including histological subtype, size, and perineural or lymphovascular invasion. Our aim was to analyse features of primary and metastatic BCCs, and identify possible predictors of spread.

Methodology: We reviewed six cases of metastatic BCC, which were seen in our institution between the years 2000 and 2016. Patients' clinical histories, demographics and comorbidities were noted. The pathology reports and specimen (where possible) of both the primaries and metastatic lesions were obtained, and reviewed by an independent pathologist for second opinion on histopathology and confirmation of metastatic BCC.

Results: Three of the six cases involved primaries located in the head and neck. The most common primary histological subtypes were morpheiform & infiltrative. This was accompanied by perineural and/or lymphovascular invasion in two cases. Three of the cases demonstrated large primaries of greater than 50mm in diameter. One was found to have squamous differentiation in both the primaries and metastases.

Conclusion: We propose that primary BCCs with suspicious clinical/histopathological features be monitored closely, with a low threshold to investigate radiologically for distant metastases.

von Domarus, H. and P.J. Stevens, Metastatic basal cell carcinoma. Report of five cases and review of 170 cases in the literature. *J Am Acad Dermatol*, 1984. 10(6): p. 1043-60.

THE USE OF TRANSNASAL HUMIDIFIED RAPID-INSUFFLATION VENTILATORY EXCHANGE (THRIVE) IN OTOLARYNGOLOGY: OUR EXPERIENCES IN TWO AUSTRALIAN TERTIARY FACILITIES

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Purpose: Whilst high-flow nasal oxygen has had a well-established use in critical care units, it has only recently been trialled as a method for pre-oxygenation. This novel technique, known as Transnasal Humidified Rapid-Insufflation Ventilatory Exchange (THRIVE), utilizes apnoeic oxygenation to extend the apnoeic window and allow for a smoother intubation, especially in difficult airways¹. Results have been promising, with apnoeic windows of up to 65mins attainable without desaturation below 90%². Although THRIVE has not yet seen extensive use outside of this setting, it has begun to be trialled as a sole method of ventilation in phonolaryngeal procedures².

Methodology: We report our experiences, since the start of 2017, with using THRIVE as the sole mode of ventilation in various otolaryngological procedures, including rigid laryngoscopies, endoscopic tracheo-bronchoscopies and transoral laser microsurgery. Patients were carefully selected to undergo surgery at one of two tertiary facilities: Westmead Private Hospital & Chris O'Brien Lifehouse, with the support of an experienced anaesthetist.

Results: We have found THRIVE to be successful in maintaining adequate oxygenation whilst providing sufficient apnoeic windows to perform phonolaryngeal procedures. It allows for an improved field of view to facilitate thorough hypopharyngeal/laryngeal inspection & biopsy. In our cases incorporating laser, we report no intra/post-operative complications.

Conclusion: THRIVE is a safe, effective and well-tolerated airway technique that warrants further trialling in otolaryngological surgery.

¹ Gustafsson IM, Lodenius A, Tunelli J, Ullman J, Jonsson Fagerlund M. Apnoeic oxygenation in adults under general anaesthesia using Transnasal Humidified Rapid-Insufflation Ventilatory Exchange (THRIVE) - a physiological study. *Br J Anaesth* 2017;118(4):610-7

² Patel A, Nouraei SA. Transnasal Humidified Rapid-Insufflation Ventilatory Exchange (THRIVE): a physiological method of increasing apnoea time in patients with difficult airways. *Anaesthesia* 2015;70(3):323-9

AN OVERVIEW OF HEAD AND NECK CANCER CLINICAL TRIALS WITHIN NRG ONCOLOGY

Prof Quynh-Thu Le

With rapid advancements in surgery, radiotherapy, chemotherapy, molecularly targeted therapy and biomarkers, there is strong interest within the NRG Oncology Group to incorporate these advancements in clinical trials for head and neck cancer in order to enhance treatment effectiveness and spare patients or normal tissues from unnecessary treatment or collateral damage. Tailoring therapy in HNC can come in different forms. One of such form is physical tailoring the radiation dose to the tumor while minimizing the dose to the surrounding critical tissues. This has been accomplished in the last decade with the use of intensity modulated radiation therapy (IMRT) and image guidance delivery (IGRT) and can be further improved in the next decade with particle beam therapies. Another form of tailoring therapy focuses on using tumor biomarkers or characteristics to enrich for the patient population who would most likely benefit from a treatment regimen. Examples in HNC include (1) identifying patients with good risk Human Papillomavirus (HPV)-driven oropharyngeal carcinoma for treatment de-escalation, (2) using post chemo-radiation circulating EBV DNA to guide the use of adjuvant chemotherapy in patients with nasopharyngeal carcinoma, and (3) using pathologic findings to guide who would need the addition of chemotherapy to radiation therapy after surgery. The presentation will highlight some the current effort within the NRG Oncology head and neck committee in tailoring clinical trial designs in order to incorporate more precise and personalized treatments in large prospective clinical trials.

TACKLING SALIVARY STEM CELLS TO IMPROVE FUNCTION AFTER RADIOTHERAPY

Prof Quynh-Thu Le

Radiation (RT)-related hyposalivation or xerostomia is the most common side effect in head and neck (HNC) survivors. Hyposalivation leads to dental decay, mandibular osteoradionecrosis and swallowing dysfunction. Our group and others have previously identified salivary stem-progenitor cells (SSPC) in adult murine salivary glands and demonstrated that implantation of ~200 SSPC could rescue saliva function in mice after high dose RT. However, SSPC are too rare to be used in the clinic; therefore, we focus on SSPC specific pathways that can be manipulated to enhance SSPC survival, proliferation and differentiation after RT. We found that ALDH3A1 (aldehyde dehydrogenase 3A1) expression was three-fold higher in SSPC than

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in non-stem cells and its activation with Alda-89 (a small molecule activator) increased the SSPC yield and salisphere formation after RT. Treatment with Alda-89 during RT preserves saliva production and functional acini without increasing tumor growth in mice. Alda-89, however, is a poor clinical candidate due to its positive Ames assay for carcinogenicity. We therefore set out to identify new activators with improved safety profiles. We screen 155 plant extracts used in traditional Chinese medicine for novel ALDH3A1 activators. Using HPLC and NMR we isolate possible active compounds, whose biological activities are then tested to identify specific activators for ALDH3A1. We focused on the compound with the highest activity and the best safety profile that we named Alda-341. *In vitro* studies demonstrate that Alda-341 is a selective activator of ALDH3A1 and *in vivo* data confirm that it preserves saliva function in mice after RT. Likewise, it does not protect HNC from RT cell kill in xenograft models. Most importantly, Alda-341 is Generally Recognized as Safe (GRAS) by the US Food and Drug Administration (FDA). Because of its favorable safety profile, Alda-341 is a promising clinical candidate for clinical translation, which will be tested in planned clinical trials.

THE SURGICAL LEARNING CURVE IN THE TREATMENT OF ORAL SQUAMOUS CELL CARCINOMA

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The Royal Brisbane and Women's Hospital, Queensland, Australia

Purpose: The surgical learning curve is a well-documented phenomenon in the field of surgical oncology. Our research aims to determine the impact of surgeon volume among other surgical determinants in the treatment outcome of oral SCC patients.

Methodology: All new oral SCC cases treated at our institution between 2008 and 2013 with a minimum of 3 year follow-up were included. Patients, contraindicated for curative surgeries, were excluded. A heterogeneous set of predictor variables was collected, including patient factors, surgeon factors and tumour factors. The outcomes of interest were disease-free survival (DFS) and disease-specific survival (DSS). Using backward elimination process, predictors with p-value of 0.10 or less were retained for Cox Proportional Hazards regression model.

Results: 301 cases were recruited. The DFS and DSS were 73.1% and 81.4%, respectively. Surgical margins of less than 1mm were significantly correlated with surgeons who have operated less than 45 cases during the study period (p-value: 0.01). For DFS, perineural invasion was the only significant predictor with hazard ratio (HR) of 1.78 (p-value: 0.03). The negative predictors for DSS were age and worse nodal disease with HR of 1.03 (p-value: 0.03) and 3.95 (p-value: 0.04), respectively. Higher surgeon volume significantly improved patient survival (HR: 0.37; p-value: 0.02).

Conclusion: The presence of perineural invasion and nodal disease at the time of surgery are important tumour factors that can lead to adverse treatment outcomes. Our finding supports the rationalisation of oral SCC management at high-volume centres and in the hands of experienced surgeons for better patient outcomes.

GRADENIGO SYNDROME ON A 30YRS OLD TONGAN FEMALE

Dr Sepiuta Lopati

Vaiola Hospital, Nuku'alofa, Tonga

Case Report of a 30 year old lady with Gradenigo syndrome on presenting with sixth nerve palsy as a complication of chronic suppurative otitis media.

Introduction: Gradenigo syndrome is a very rare disease which is characterized by the triad of the following: suppurative otitis media, pain in the distribution of the first and second division of the fifth cranial nerve and paralysis of the sixth cranial nerve. It was first described by the Italian Otolaryngologist Giuseppe Gradenigo in 1907.

Case Report: A 30 year old lady with a history of chronic suppurative otitis media of right ear from early childhood presented with ear discharge and recently ear pain. She was admitted but did not respond to intravenous Ampicillin and Metronidazole and was transferred to the national hospital. On examination she had ear discharge, mastoiditis extending to temporal and occipital area and paralysis of lateral gaze on ipsilateral side. On CT scan a well define collection over right temporal parietal involving both soft tissue and brain adjacent to it. The bone window showed erosion of bone in this region consistent with osteomyelitis with no aeration of mastoid and middle ear and ossicles were all eroded. She did not respond to intravenous Ceftriaxone, Metronidazole, Cloxacillin and topical Sofradex eardrops. A Modified Radical wall down mastoidectomy was performed. A large, foul smelling purulent collection was drained from the right mastoid cells and antrum extending to temporal, frontal and occipital region. She had a good recovery including recovery to normal vision.

QUALITY OF LIFE AFTER RADICAL PAROTIDECTOMY

Dr Eric Luu, Prof Jonathan Clark, Dr Tsu-Hui (Hubert) Low
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Purpose: Radical parotidectomy is often required for advanced malignancy involving the parotid gland. This procedure carries significant morbidity, potentially decreasing quality of life. We aim to examine the impact of radical parotidectomies on patient quality of life.

Methodology: Between 1995 and 2015, we identified 39 patients with a malignant pathology within the parotid gland. All patients who underwent radical parotidectomy received lid loading and appropriate lower lid reconstruction. Participants were asked to complete a University of Washington Quality of Life Questionnaire (UoW-QOL) as well as a customised parotidectomy quality of life outcome (P-QoL) questionnaire.

Results: To date, 19 patients completed the questionnaires (51%). Mean age was 62.2. Median post-operative time was 97.7 months. Seven patients had their facial nerve sacrificed (4 dynamic reconstructions and 3 static reconstructions) and 12 had facial nerve sparing procedures. The latter group serve as controls for the cohort. Patients reported equivalent level of quality of life in all domains of UoW-QOL amongst both groups. However, 4 out of 7 (57.1%) patients who had undergone radical parotidectomy reported significant difficulties with speech and communication, compared to 0 out of 12 patients in the non-radical group ($p=0.003$). The P-QoL also identified significant eye related complaints amongst patients with sacrificed facial nerves, despite lid loading of the upper lid and appropriate lower lid procedures ($p=0.035$).

Conclusion: The major morbidity resulting from radical parotidectomies are due to eye discomfort and speech impediment. Dynamic reconstructive techniques could potentially address the dysarthria. Current lid loading reconstructive procedures, whilst providing some relief of eye symptoms, are still far from ideal, suggesting alternative reconstructive techniques need to be explored.

TRANS TRACHEAL APPROACH TO THE OESOPHAGUS

Dr Angelica Lynch, Dr Chris Perry, Dr Mark Smithers, Dr Daniel Rowe, Dr Raefe Gundelach

University of Queensland, Queensland, Australia

Upper cervical oesophageal squamous cell carcinoma (SCC) is a rare form of malignancy and treatment approach is most commonly with chemo-radiotherapy or total pharyngolaryngoesophagectomy. We report a case of upper cervical oesophageal SCC managed with local resection, jejunal interposition and larynx preservation in a 77-year-old-woman. Total pharyngolaryngoesophagectomy renders patients with an alteration in both voice and ability to swallow hence carrying significant post-operative morbidity. We review the literature for similar larynx-preserving operations and illustrate a novel approach to the management of this rare malignancy.

IS MRI A USEFUL MODALITY TO MEASURE PHARYNGEAL OEDEMA FOLLOWING CHEMO-RADIATION?

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Department of Radiation Oncology, St George Hospital, New South Wales, Australia

Background: Internal lymphodema of pharyngeal structures is a common sequela of head and neck cancer treatment impacting on short and long-term swallowing function. Our aim is to document the incidence and severity of oedema and the resultant effect on swallowing function.

Method: Swallowing function in our unit is measured using the Sydney Swallow Questionnaire. Lymphodema is measured directly during nasendoscopy using the Patterson Scale. To assist in more objective measurement of pharyngeal oedema, we implemented a pre and post treatment MRI to enable accurate measurement of both the muscle/structure thickness and volume of the pharyngeal constrictors and epiglottis.

Results: In patients with early swallow dysfunction our preliminary data shows significant differences in muscle/structure thickness and volume from pre to post treatment.

Discussion: Methodological challenges using MRI as a measure of pharyngeal oedema will be discussed and the clinical advantages and pitfalls of adding this technique in the context of head and neck cancer treatment explored.

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DIAGNOSTIC PERFORMANCE OF THYROID MULTIMODAL- IMAGING COMPREHENSIVE RISK STRATIFICATION SCORING (TMC-RSS) SYSTEM IN CHARACTERISING THYROID NODULES

Dr Abhishek Mahajan, Dr Richa Vaish, Dr Nilesh Sable, Prof Supreeta Arya, Prof Shubhada Kane, Prof Anil D'Cruz

Tata Memorial Centre, Maharashtra, India

Objective: No single study has used combined scoring based on US with doppler and elastography. The aim of the study Create an algorithm (TMC-RSS-System) using Ultrasound features in combination with doppler, elastography (ES-Asteria) and test its diagnostic performance.

Method: April 2015 to January 2016 prospectively collected data. All studies were performed on single equipment and US, Doppler, Elastography was performed by same observer. Gold standard was pathology. 650 nodules (560-patients), final analysis 616 nodules. 47.2% Benign and 52.8% Malignant. TMC-RSS-System: Positive characteristics: Each-feature:3points: ES score 3or4, malignant nodes. Each-feature:1point: Taller than wider, microcalcification, hypoechogenic, solid, ill-defined margins, central+/-peripheral vascularity. Each-feature: 0.5point: irregular halo, >1cm diameter. Negative characteristic: Each-feature:3points: Purely cystic, ES-score-1; Each-feature 1point: spongiform, comet-tail artefact, complete halo. Each-feature:0.5point: peripheral vascularity. Final TMC-RSS-System: positive predictor score minus negative predictor score.

Results: Mean age-47.3yrs. Mean size- 2.3+/-1.5cm. Diagnostic performance of combined TIRADS, vascularity and elastography (sensitivity: 96%, specificity: 95%, PPV: 95%, NPV: 96%, kappa: .911) was statistically ($p > .001$) higher than USG, TIRADS, ES, TIRADS and ES, TIRADS and vascularity. On univariate analysis all US features and on multivariate analysis all except taller than wider was statistically significant for predicting malignancy ($p > 0.05$). All three benign US features were found to be predictor of benign nodule on univariate analysis. TMC-RSS score had 90% sensitivity, 89% specificity and 91% accuracy for characterising the nodules. On the ROC curve the cut-off for best performance of TMC-RSS score was 5.75. The cumulative risk of malignancy based on TMC-RSS score was 2.4% for <3.0 score, 18% for score 3-6 and 80%.

Conclusion: TMC-RSS-System can be the first step in standardizing reporting lexicon allowing effective clinico-radiological communication and will provide a holistic imaging approach for thyroid nodules.

CT BASED MODIFIED SHIN CLASSIFICATION FOR GRADING TRACHEA INVASION: ADDRESSING THE RESECTABILITY ISSUES IN THYROID CANCER

Dr Abhishek Mahajan, Dr Richa Vaish, Dr Nilesh Sable, Prof Supreeta Arya, Prof Shubhada Kane, Prof Anil D'Cruz

Tata Memorial Centre, Maharashtra, India

Objective: Evaluate the diagnostic value CT based modified SHIN Classification for preoperative prediction of TI in patients with papillary thyroid cancer (PTC).

Method: Retrospective study PTC patients who underwent total thyroidectomy (with or without neck dissection; 39 surgical nodules: 29 unilateral, 5 bilateral). Preoperative CT were performed in all. TI was categorised based on contact of tumor with trachea on CT imaging modalities. Grades of CT based SHIN Classification: I: disease abuts but does not invade external perichondrium. II: disease invades into the cartilage or causes cartilage destruction. III: disease extends into the tracheal mucosa with no elevation or penetration of the mucosa. IV: disease is full-thickness invasion with expansion of the tracheal mucosa with a bulge along tracheal lumen. Other imaging features that were analysed were: Angle of contact (in degree): grade I 0-89; II 90-179; III 180-269; IV- 270 or more Shape: Score I: horseshoe, elliptical, or circular configuration; II: trachea with a locally straightened wall; III: trachea with an inward concave deformity. Grade of enhancement: None, similar, hyperenhancement Other parameters investigated were patient's age, sex, surgical procedure performed, and pathology. Considering histopathology as the gold standard diagnostic performance of CT imaging for predicting TI was calculated and logistic regression model was also generated.

Results: CT based SHIN categories: I- 15 (39%), II- 10 (25%), III- 8 (21%) and IV- 6 (15%). CT based scoring had very high specificity (98%) and NPV (93%) for predicting TI. The sensitivity was 87% and PPV was 89%. More than 130-degree contact with trachea, soft tissue within the cartilage and score III shape were strong predictor of TI (P value < 0.05). Grade of enhancement showed no correlation.

Conclusion: CT based Modified SHIN classification has a very high negative predictive value for predicting TI and can help optimizing postoperative outcomes with efficient preoperative assessment.

SINONASAL TUMOURS AND TUMOUR-LIKE LESIONS: THE EYE SEES ONLY WHAT THE MIND IS PREPARED TO COMPREHEND

Dr Abhishek Mahajan, Dr Nilesh Sable, Dr Richa Vaish, Dr Somesh Singh, Prof Prathamesh Pai, Prof Anil D'Cruz

Tata Memorial Centre, Maharashtra, India

Teaching Points: Although rare tumours and tumour-like lesions of the sinonasal region are rarely encountered in daily clinical practice, many radiologists need to be familiar with these disease entities. Because of the inherent nature of this lesion and its rarity, inflammatory pseudotumours should remain a diagnosis of exclusion. Recently, rare tumours and non-neoplastic tumour-like lesions, which could occur at the sinonasal region, seem to be more frequently found in daily clinical practice, partly due to the technical advances of various imaging modalities and refinements in diagnostic criteria. However, these tumours and tumour-like lesions are sometimes challenging in that there is little comprehensive information to guide clinical care. Radiologists should be familiar with this entity as a diagnostic consideration to avoid unnecessary surgery.

Table of Contents/Outline: The exhibit will focus on the following points: Classification of tumour and tumour-like lesions of the sinonasal region Overview of various rare tumours and tumour-like lesions in the sinonasal region, including epidemiology, imaging findings, pathology and differential diagnosis Special focus role of FDG-PET/CECT and multiparametric MRI in diagnosis. Case series of IgG4-related disease (inflammatory pseudotumor) highlighting the journey to their diagnosis.

IN VIVO RAMAN SPECTROSCOPY ASSISTED EARLY IDENTIFICATION OF POTENTIAL SECOND PRIMARY/RECURRENCES IN ORAL CANCERS: AN EXPLORATORY STUDY

Dr Akshat Malik, Dr Aditi Sahu, Dr Suryapratap Singh, Dr Atul Desmukh, Dr Pankaj Chaturvedi, Dr Deepa Nair, Dr Sudhir Nair, Dr Murali Krishna Chilakapati

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Background: Higher rates of local recurrences and second primaries, ascribable to field cancerization, are known problem in oral cancers. The present study explored the utility of identification of potential recurrences by Raman spectroscopy (RS), which has been shown to identify oral precancers, cancers and field cancerization in humans and micro-sized mechanical irritation induced tumors in animals.

Method: Raman spectra were acquired from tumor and contralateral normal in 99 oral cancer subjects who were then followed up for appearance of clinically apparent cancerous lesions. Misclassifications observed in subsequent multivariate-statistical analysis between contralateral normal and tumor spectra were correlated with appearance of new malignant lesions.

Results: The patients with mismatched spectra had 1.5 times higher chances of developing local recurrence. The sensitivity of RS in predicting the recurrences was 80% and the specificity was 29.7%.

Conclusion: Findings suggest proof –of-concept for RS based identification of sites that have higher propensity to progress to carcinomas before becoming clinically apparent. Prospective validation of RS in identification of advanced field changes and subsequent malignancy progression by including additional oral sub-sites and use of multi-fiber bundles may improve rate of identification of recurrence prone subjects.

A PROSPECTIVE COHORT STUDY: COGNITIVE AND NEUROBEHAVIORAL FUNCTION IN LONG-TERM SURVIVORS TREATED FOR NASOPHARYNGEAL CANCER WITH INTENSITY-MODULATED RADIOTHERAPY IN A NON-ENDEMIC CENTRE

Dr Lachlan McDowell, Dr Meredith Giuliani, Dr Andrew Hope, Prof Brian O'Sullivan, Dr Scott Bratman, Dr John Cho, Dr John Kim, Dr Raymond Jang, Dr Andrew Bayley, Dr Lori Bernstein, Prof Jolie Ringash, Prof Wei Xu, A/Prof John Waldron, Ms Liin

Princess Margaret Cancer Centre, Ontario, Canada

Purpose: To report cognitive and neurobehavioral outcomes in nasopharyngeal cancer (NPC) survivors treated with intensity-modulated radiotherapy (IMRT).

Methodology: NPC survivors ≥ 4 y post IMRT completed a battery of tests and questionnaires in their choice of English or Chinese. Objective cognitive function was assessed using the Montreal Cognitive Assessment (MoCA). Frontal lobe neurobehaviors (apathy, disinhibition, executive dysfunction) were assessed with the Frontal Systems Behavior Scale (FrSBe) Patient and Family Ratings. Other PRO instruments (MDASI, FACT-HN, HADS) and demographic and treatment variables were correlated.

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Results: 103 NPC survivors (M:F 67:36; mean age 55.5 (21-77); mean time since IMRT=7.4y (4.2-11.1y)) participated. 33 (32%) patients demonstrated objective cognitive impairment (MoCA<23). Adjusting for education, there was no significant difference between Chinese (n=39) and English (n=64) responders. Education was the only demographic or treatment factor significantly associated with cognitive performance. Self-reported cognitive function (MDASI) correlated with MoCA total ($r=.267$, $p=.007$), orientation ($r=.467$, $p<.001$), and delayed recall ($r=.206$, $p=.039$). Pre-cancer neurobehavioral function fell within normal range for both patient (n=101) and family ratings (n=33), total FrSBe means 53.3 and 59.4 respectively. However, post-treatment scores fell in abnormal range (mean 64.5, 71.6 respectively), and all neurobehavioral symptoms (apathy, disinhibition and executive dysfunction) increased (all $p<0.001$ for both patient and family ratings). Rates of clinically significant disturbance post-treatment were high in both patient and family reports (48%/67% apathy, 35%/52% disinhibition, 39%/58% executive dysfunction, respectively). In addition, patients reporting significant post-treatment neurobehavioral symptoms reported lower quality of life and higher rates of anxiety and depression (all $p<0.001$).

Conclusion: Years after IMRT, NPC survivors are at risk of impaired neurocognitive function and neurobehavioral symptoms (apathy, disinhibition, and executive dysfunction).

MAXIMISING SCREENING AND REFERRAL TO PHYSIOTHERAPY AFTER NECK DISSECTION: A TRANSLATIONAL STUDY

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Background: Neck dissection frequently leads to long-term physical morbidity, such as neck and shoulder dysfunction and head and neck lymphoedema, impacting on survivors' function and quality of life. Emerging evidence supports specific, early physiotherapy rehabilitation in maximising outcomes for affected survivors. However a lack of routine musculoskeletal and lymphoedema screening after neck dissection means that survivors are not benefiting from early physiotherapy intervention.

Purpose: 1. Investigate surgeons' musculoskeletal and lymphoedema assessment of patients following neck dissection, and subsequent referral practices to physiotherapy at John Hunter and Royal North Shore Hospitals. 2. Reduce the evidence-practice gap, by

implementing routine physical screening of head and neck cancer survivors after surgery, maximising the early identification of and subsequent referral to physiotherapy.

Methodology: This project includes focus groups with surgeons at the intervention sites; and a controlled trial, with the John Hunter and Royal North Shore Hospitals the intervention sites and Liverpool Hospital the control site. The intervention involves: 1. Provision of a physiotherapy brochure to patients after neck dissection (ward setting) 2. A clinical pathway for screening of physical issues after neck dissection and referral on if indicated to physiotherapy (ward and outpatient settings) 3. Education and clinical resource packages to physiotherapists at the intervention sites to increase evidence-based physiotherapy management of head and neck cancer survivors. The project is currently in progress. Clinical Implications This translational pilot study has the potential to reduce the evidence-practice gap in the holistic management of head and neck cancer survivors, thereby maximising their functional outcomes and quality of life. Outcomes from this project may provide a template for physiotherapy clinical pathways to be developed at other cancer centres nationally.

ORAL SCC WITH PERINEURAL INVASION: A COMPARATIVE STUDY OF CLASSIFICATION TYPES AND PROGNOSIS

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Purpose: Perineural invasion (PNI) is an adverse prognostic factor in oral SCC. However, it is unclear whether the type of PNI is an independent prognostic factor. The aim of this study is to examine the types of PNI in patients with oral SCC with regards to survival and recurrence.

Methodology: Retrospective chart review of 120 patients identified with oral SCC from the Head and Neck database treated in South Australia from 2005 to 2015. A pathologist blinded to the patient's outcomes reviewed the slides in cases where the type of PNI was not clearly reported. The overall survival and disease recurrence were analysed by PNI type and compared to patients without PNI.

Results: 120 patients were identified and 51 had PNI. The most common description being intratumoral (49%), followed by extratumoral (30%) and intraneural (3%). Other descriptions included single foci (15%) and multi-foci (3%). Patient's with PNI had a 69% disease free survival and 55% overall survival. Whereas disease free

survival and overall survival was better (74% and 64% respectively) in patients without PNI. Disease free survival was 63% and overall survival was 69% in the patients with intratumoral PNI. Whereas there was 80% disease free survival and 70% overall survival in the patients who had extratumoral PNI. Disease free survival was 80% and overall survival was 40% in patients with single foci PNI.

Conclusion: Intratumoral PNI is the most common type of PNI identified in this study. Prognosis appears poorer in patients with PNI and the different types of classification don't appear to significantly affect survival in this study. Hence multi-modality treatment is recommended in patients with PNI.

TRANSFORMING CLINICAL SERVICE DELIVERY: IMPLEMENTATION OF THE HEAD AND NECK CANCER LOW RISK SPEECH PATHOLOGY PATHWAY

Mrs Laura Moroney, Dr Benjamin Chua, Dr Brett Hughes, Mrs Jennifer Helios, Prof Liz Ward, Mrs Jane Crombie, Ms Anita Pelecanos, Dr Clare Burns, Mrs Ann-Louise Spurgin, Ms Claire Blake, Dr Lizbeth Kenny

Royal Brisbane and Women's Hospital, Queensland, Australia

Purpose: With growing service demands, streamlined speech pathology (SP) services are required to optimise efficiency and outcomes for head and neck cancer (HNC) patients. However, no evidence based guidelines exist detailing when, at what intensity, and for which patients regular SP support is required. Most Australian SP HNC services use a one-size-fits-all model potentially leading to over-servicing. Prior research identified a subgroup of HNC patients at low risk for developing dysphagia and associated toxicities during radiation treatment (RT). Thus, the 'Head and Neck Cancer Low Risk Speech Pathology Pathway' was implemented in 2017. This study evaluated the clinical safety and utility of this service delivery model.

Method: Patients included in the low risk pathway are those with tumours of the skin, thyroid, parotid, nose, nasal cavity, salivary gland, lymphoma, or those receiving 60Gy curative radiotherapy. Patients receiving concurrent chemotherapy or baseline dysphagia (FOIS 5) were excluded. The pathway involves a SP/dietetic education lecture in week 1, followed by appointments with a dietitian for nutrition management and dysphagia screening in weeks 3, 5/6/7. For research purposes, a SP review of swallow status occurred in week 5/6.

Results: Of 20 patients managed, 35% (n=7) failed dysphagia screening, and were referred for SP assessment. For 1 of these 7 (14%), SP assessment

confirmed dysphagia and they returned to the usual care SP/dietetic clinic. SP assessment conducted at week 5 for all remaining patients on the pathway confirmed 100% agreement with the screening assessments and no patients wished to see SP for dysphagia issues.

Conclusion: Preliminary results support the pathway is safe and effective for SP management HNC patients at low risk for dysphagia during RT.

DISTRESS IN HEAD AND NECK CANCER: CAN YOU RECOGNISE IT, CAN YOU RESPOND TO IT? THE BENEFITS OF A BRIEF COMMUNICATION TRAINING INTERVENTION

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Purpose: This study aims to explore health professionals confidence and knowledge in recognising and responding to distress in the head and neck cancer population following a 2 hour communication skills workshop (CARE Express).

Methodology: Interdisciplinary health professionals were recruited of whom 50 were in the control arm and 48 participated in a two-hour workshop (CARE Express). We measured perceived skills and confidence by self-report, and by participants' responses to a clinical vignette of a patient who completed cancer treatment for HNC. Measures were taken at baseline, and at three months completion of training.

Results: The control group showed no changes in confidence in identifying or responding to distress between T1 and T3. The CARE Express group showed a significant improvement from T1 to T3 in both recognising and responding to the emotion of distress (p-value<.001). In response to the clinical vignette, the control group demonstrated no changes in pragmatic or acknowledging responses from T1 to T3. The Express Group demonstrated a significant improvement in acknowledging responses from T1 to T3 (p<.001), pragmatic responses had a significant increase between T1 and T3 (p=0.02), which is consistent with responses expected in management of acute toxicity.

Conclusion: CARE Express is a communication training package that sustains improvements in confidence, and ability to respond empathically when compared to a control group. In the busy health care environments with multiple training demands the 2 hour communication workshop delivers a sustainable package that increases accessibly for all staff to receive training.

Verbal Presentation Abstracts (cont'd)

"I LOOKED LIKE AN ELEPHANT": EXPLORING THE DISTRESS AND QUALITY OF LIFE ASSOCIATED WITH HEAD AND NECK LYMPHOEDEMA

Ms Jodie Nixon, Dr Amanda Pigott, Dr Bena Cartmill, Prof Jane Turner, Prof Sandro Porceddu

Princess Alexandra Hospital, Queensland, Australia

Purpose: This study aims to examine the distress and quality of life (QoL) in people who developed head and neck lymphoedema (HNL) following treatment for head and neck cancer.

Methodology: This ethics approved pilot study used a mixed method design. The prospective repeated measures component examined distress, QoL and self-reported HNL during a 22 week HNL treatment program. The second component, an interpretive descriptive design, explored the patient experience of distress associated with HNL.

Results: Distress associated with HNL was statistically different at the 3 time points during the treatment program (baseline, week six and week 22), with improvements in distress from baseline to week 6 ($p = 0.015$), and from baseline to week 22 ($p = 0.007$). There were no significant differences in overall QoL, body image or fear of cancer progression. The self-reported presence of HNL was statistically different across the 3 time points during the treatment program with significant improvements from baseline to week 6 ($p = 0.020$), week 6 to week 22 ($p = 0.026$), and from baseline to week 22 ($p = 0.001$). Thematic analysis of the semi structured interviews revealed 6 major themes associated with the participant experiences of distress related to HNL, and a minor theme related to cellulitis.

Conclusion: This study found that distress associated with HNL reduced with the delivery of a HNL treatment program. Qualitative interview data identified several themes related to HNL and its impact on distress, function and day to day life which can be used to reinforce the holistic delivery of person centred care to the HNC cohort.

CHALLENGING THE TREATMENT PARADIGM THAT ALL PATIENTS WITH LOCALLY ADVANCED CUTANEOUS SCCHN REQUIRE SURGERY

Prof Sandro Porceddu

Princess Alexandra Hospital, Queensland, Australia and University of Queensland, Queensland, Australia

Surgery and post-operative radiation therapy (PORT) remains the standard of care for locally advanced cutaneous squamous cell carcinoma of the head and neck (cutSCCHN).

Concurrent chemo-radiotherapy is an established treatment for many solid tumours, including mucosal head and neck cancer.

Multi-modality treatment, such as surgery and PORT is known to increase acute and long-term toxicity compared with single modality treatment.

With regards to mucosal SCCHN, improvements in RT technology has seen an increase in tumour control probability with reduced toxicity, while advances in imaging technology allows more accurate post-therapy assessment reducing the need for salvage surgery.

Recent publications point to complete responses with concurrent chemo-radiotherapy in patients deemed inoperable at presentation. In addition cutaneous SCC is highly immunogenic making it a promising candidate for immunotherapy, such as checkpoint inhibitors. Recent data demonstrates high response rates with an anti-PD-L1 inhibitor, with prolonged complete responses in some cases.

In light of the emerging evidence, this presentation will examine the currently accepted treatment paradigm for locally advanced cut SCCHN and whether a case can be made for a non-surgical approach as first-line therapy for selected, otherwise operable, patients.

TOTAL LARYNGECTOMY AND FUNCTIONAL OUTCOMES: A COMPARISON OF SALVAGE LARYNGECTOMY VS PRIMARY LARYNGECTOMY WITH ADJUVANT RADIATION THERAPY

Mrs Rachelle Robinson, Mrs Molly Barnhart, Prof Elizabeth Ward, Mrs Virginia Simms, Mrs Sophie Chandler, A/Prof Robert Smee

Prince of Wales Hospital, New South Wales, Australia

Introduction: There is a clinical perception that laryngectomy patients who undergo salvage total laryngectomy (S-TL) versus those who receive a primary total laryngectomy with adjuvant radiotherapy treatment (TL) may have worse swallowing and voice outcomes and experience a more complex course of post-surgical rehabilitation. Unfortunately, to date there has been little systematic study of this issue. The aim of the current study is to compare the functional speech and swallowing outcomes of S-TL and TL patients in both the acute and long term.

Method: Outcomes were collected prospectively for TL and S-TL patients (excluding pharyngectomy) at 1, 3 and 6 months post treatment using a range of voice and swallowing measures [eg. Functional Oral Intake Scale, primary mode of communication, alaryngeal Functional Communication Measure (FCM)]. Hospital length of stay(LOS) and complications were also recorded.

Results: Current results are preliminary data from the larger, ongoing study. Data from the first 7 TL and 6 S-TL eligible patients, followed to 6 months, revealed no significant difference in FOIS scores ($p>0.05$), with majority of patients tolerating a full diet at all time points in both groups. Most patients in both groups used tracheoesophageal voice as their primary mode of communication, and no significant differences were found in primary mode of communication or FCM scores ($p>0.05$) at any time point between the groups. Complications (fistulas, peripheral voice prosthesis (VP) leakage, accidental VP dislodgements) and LOS were also comparable at each point ($p>0.05$).

Conclusion: This preliminary data suggests that patients' functional outcomes are comparable between TL vs S-TL with no difference in complications. Data collection is ongoing. Findings can be used to assist patient education and management.

THE IMPACT OF REMOVING MICROSCOPIC EXTRATHYROIDAL EXTENSION FROM EXISTING PROGNOSTIC SYSTEMS ON PREDICTING RECURRENCE RISK IN PAPILLARY THYROID CARCINOMA

Mr David Roshan, Dr Leong Tiong, Dr Earl Abraham, Dr Bryan Tran, Dr James Wykes, Dr Peter Campbell, A/Prof Ardalan Ebrahimi

Liverpool Hospital, New South Wales, Australia

Purpose: In the new 8th edition American Joint Committee on Cancer staging system for papillary thyroid carcinoma (PTC), microscopic extrathyroidal extension (mETE) has been removed from the T category classification based on increasing evidence that this may not be an independent prognostic factor. However, multiple other prognostic systems developed for PTC incorporate ETE without discriminating between microscopic and macroscopic extent. In this study, we aimed to determine which system best predicts risk of disease recurrence and the impact of removing mETE on prognostic performance.

Methodology: Six staging systems (TNM8, MACIS, EORTC, OSU, UCCC and MURCIA) were applied to determine risk of recurrence in a retrospective cohort of 573 patients with PTC using Cox regression analysis. Candidate systems were compared using proportion of variation explained (PVE), Harrell's concordance index (C-index), Akaike information criterion (AIC) and visual inspection for stratification into distinct prognostic categories on Kaplan-Meier (KM) curves. Analysis was repeated for non-TNM8 systems after removing mETE from staging.

Results: All systems, irrespective of modification, significantly predicted recurrence risk ($p=.003$ to $p<.001$). Prior to modification, the Metastases, Age, Completeness of Resection, Invasion, Size (MACIS) system performed best. Re-analysis after excluding mETE resulted in downstaging between 4-14% of patients. Removal of mETE resulted in reduced prognostic performance for all systems except the University of Chicago Clinical Class (UCCC), which became the premier system for stratifying recurrence risk with the highest PVE (28%), C-index (0.69) and lowest AIC.

Conclusion: Removal of mETE from existing PTC prognostic systems generally reduces their ability to stratify recurrence risk, except for UCCC. Further study is needed to validate these findings and determine the impact of removing mETE on predicting disease-specific and overall survival.

Verbal Presentation Abstracts (cont'd)

MICROSURGICAL RECONSTRUCTION OF THE NASAL ALAR USING FREE HELICAL RIM FLAPS

Dr Milap Rughani, Dr Michael Wagels

Princess Alexandra Hospital, Queensland, Australia

Introduction: In head and neck surgery the reconstruction of nasal defects remains a challenge, in particular the alar rim subunit. A range of surgical techniques including skin grafts, pedicled flaps and composite grafts have been utilised as reconstructive options. However each procedure has shortcomings for full thickness defects. We present our experience of microsurgical free helical flaps to reconstruct the alar rim following defects from oncological excisions. Furthermore we matched these cases with patients undergoing composite graft techniques for similar defects. We assessed the two groups and present clinical, photographic and patient reported outcomes.

Methodology: We reviewed reconstructive operations performed at the Princess Alexandra Hospital, Brisbane, QLD for nasal alar defects between 2013 and 2017. We grouped cases of free helical flaps and composite grafts. The clinical records and photographic evidence are presented for these groups.

Results: Overall eight patients with full thickness defects of the nasal alar rim underwent reconstruction; with four patients in each reconstructive group. Four patients (two males and two females) underwent free helical flap. All patients had previously undergone excisional surgery for basal cell carcinoma. The median age was 53 years (range 29-59 years). All free helical flaps were based upon the superficial temporal artery branches, microsurgical anastomoses were to the facial artery with a mean ischaemic time of 104 minutes. A detailed description of the technique is presented. There were no returns to theatre or significant donor site complications noted. The median follow up period was 11 months (range 4-24 months) with a 100% flap survival rate. Patients reported an overall improvement in function and form following microsurgical reconstruction.

Conclusions: The microsurgical free helical rim flap provides an optimal, reliable and one stage reconstruction for complex nasal alar rim defects.

INTEGRATING VIRTUAL SURGICAL PLANNING AND 3D PRINTING TECHNOLOGY IN A UNIVERSAL HEALTHCARE SYSTEM

Mr Felix Sim

Monash Hospital, Victoria, Australia

Purpose: The purpose of this investigation is to critically examine the evolution of this practice, reconstructive outcomes and implementation of this technology in a universal health care system with budget constraints.

Methodology: Retrospective case series of patients with a variety of benign and malignant tumors who were managed utilizing a combination of CAD/CAM software for presurgical planning, stereolithographic models, and intraoperative navigation. CT scan data was obtained in all patients, providing a 3-dimensional rendering of the head and neck for purposes of visualization, orientation, and diagnosis. The images were analyzed with 2-D and 3-D linear and volumetric measurements and were virtually manipulated (surgical simulation) by mirroring, segmentation, or insertion of anatomic structures with the aid of a software engineer. Post treatment outcome was assessed with CT scan and compared to the virtual plan for accuracy.

Results: Patient specific cutting guides improved accuracy and ease for reconstruction with fibula free flaps, especially in multi-segment reconstruction. The introduction of patient specific custom plates did not show a clinically significant improvement in accuracy of bone position when compared to standard prebent stock reconstruction plates. Despite increased accuracy, only 10 percent of this patient population received dental implant supported prosthetic rehabilitation.

Conclusion: VSP and 3D printing has resulted in an efficient and accurate method of optimizing functional and esthetic maxillofacial reconstructive outcomes. Patient specific fixation hardware do not offer improved accuracy and should only be used in select cases.

CESTEM-1 CLINICAL TRIALS: USING DYNAMIN INHIBITORS TO REVERSE RESISTANCE TO MONOCLONAL ANTIBODY THERAPY

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The monoclonal antibody (mAb) cetuximab is an important component of cancer therapy for the treatment of squamous cell carcinoma (SCC). Cetuximab targets the epidermal growth factor receptor (EGFR) but patient responses are unpredictable and the biological determinants of antibody therapy sensitivity remain unknown. We hypothesised that the trafficking status of the EGFR may impact the efficacy of the monoclonal antibody treatments directed at this receptor. Analysis of pre-treatment patient SCC tumours showed EGFR trafficking defects which correlated to positive patient outcome after anti-EGFR mAb therapy. By modulating EGFR trafficking in vitro using dynamin inhibitors which blocked the EGFR on the plasma membrane we were able to enhance anti-EGFR mAb (cetuximab)-induced SCC tumour cell death by antibody dependent cellular cytotoxicity (ADCC) in both cetuximab-sensitive and insensitive SCC cells. In contrast, blocking endocytosis with clathrin inhibitors did not promote ADCC. While both classes of endocytosis inhibitor increased cell surface levels of EGFR, only the dynamin inhibitors induced their cell surface clustering, which may directly influence immune cell activation. Therefore induction of EGFR clustering may promote improved ADCC response in patients, suggesting a new model for targeted combination therapy of cetuximab with dynamin inhibitors. Significantly, we showed in vitro and in mouse models that the commonly used anti-nausea drug, prochlorperazine, inhibited dynamin, and in combination

with cetuximab increased ADCC and cleared tumour burden, respectively. This data supported a phase 1 proof of mechanism trial where we showed in patient tumour biopsies that after prochlorperazine infusion, EGF ligand uptake was blocked at the cell plasma membrane. Together this data has informed the CESTEM study - Open-label Phase I study investigating the safety and efficacy of Cetuximab and prochlorperazine (STEMetil) combination therapy in patients with metastatic Head and Neck Squamous Cell Carcinoma, Triple Negative Breast Cancer and Adenoid Cystic Carcinoma. This work is a translation of our laboratory findings to the clinic and is being performed in collaboration with PA Hospital. This trial has the potential to change clinical practice for numerous mAbs used for cancer treatment and improve patient outcomes.

HYPOPHARYNGEAL CARCINOMAS: A PRINCE OF WALES HOSPITAL REVIEW

Prof Robert Smee, Ms Janet Williams

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Purpose: Evaluation of a single-centre's experience managing hypopharyngeal carcinoma over a many year time-frame.

Methodology: Ethics approved database was audited for patients with confirmed squamous cell hypopharyngeal carcinoma. The data set included patient, disease and treatment factors sourced from the electronic Patient Information System, hospital notes, referring doctor's correspondence and Cancer Registry information. Data was divided into patient, disease and treatment related characteristics. Evaluated endpoints were, local-control, cancer-specific survival, and ultimate local-control. Chi-square association for univariate analysis and Kaplan-Meier Method to estimate survival with SPSS-v24 was used.

Results: Between 1969 and 2015, with minimum 2-year follow-up, 493 patients with the designated primary diagnosis, of whom 329 were eligible for evaluation. Males dominated with 84%, median age of 62 years and range of 30-89 years. Seventy percent of patients presented with ECOG status 1. Primary site was piriform sinus (83%) with 22% being exophytic. T stage was T1 35 (11%), T2 32 (10%), T3 100 (30%) and T4 162 (49%), and 182 (55%) patients were N positive. Treatment modalities were: surgery 39 (12%), rt 116 (35%) and sg+rt 174 (53%). Laryngo-pharyngectomy was performed in 87% of patients requiring surgery. Standalone radiotherapy median dose was 66cGy, range (10-75cGy) in 33 fractions. Sg+rt median radiotherapy dose was 56cGy in 29

Verbal Presentation Abstracts (cont'd)

fractions. Cancer-specific survival for sg+rt at 5-years was 50% ($p=0.008$). Ultimate local-control for the entire population at 5-years was achieved in 329 (72%). ULC related to treatment modality was 116 (51%), 174 (85%), 39 (68%) for radiotherapy, combined, and surgery. Those having radiotherapy were more likely unfit for surgery.

Conclusion: Fitter patients were more likely to have surgery, with the majority of patients ultimately being locally controlled.

A MULTICENTRE ANALYSIS OF THE PROGNOSTIC PERFORMANCE OF THE 8TH EDITION AMERICAN JOINT COMMITTEE ON CANCER STAGING FOR METASTATIC CUTANEOUS SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK

Mr Ashish Sood, Dr Jessica Liu, Mr David Roshan, Dr James Wykes, Prof Ruta Gupta, Dr Jonathan Clark, Prof Ardan Ebrahimi

Liverpool Hospital, New South Wales, Australia

Purpose: The 8th edition AJCC staging for squamous cell carcinoma of the head and neck (SCCHN) introduces extranodal extension (ENE) into the N staging system for mucosal and cutaneous SCCHN. This study aimed to compare the prognostic performance of the 7th and 8th edition AJCC systems in metastatic cutaneous SCCHN.

Methodology: A retrospective analysis of disease-specific (DSS) and overall survival (OS) in 96 patients with metastatic cutaneous SCCHN, treated with curative intent at Liverpool Hospital, Sydney. Staging systems were compared using the Proportion of Variation Explained (PVE), Harrell's Concordance Index (C-index), Akaike Information Criterion (AIC) and visual inspection for stratification into distinct prognostic categories on Kaplan-Meier curves. Validation was performed on a cohort of 382 patients treated at Chris O'Brien Lifehouse.

Results: In AJCC8, 73% of N1 patients were upstaged to N2a and 78% of N2 patients upstaged to N3b. There were no patients with N3a (lymph node >6cm without ENE) disease. The majority of TNM Stage III patients were upstaged to Stage IV in AJCC8, accounting for 87.5% of patients overall. AJCC7 was superior to AJCC8 in predicting DSS for both N (C-index 0.68 vs 0.66; PVE 31% vs 26%) and TNM stage (C-index 0.64 vs 0.54; PVE 27% vs 14%). These results were robust to adjustment for radiotherapy administration. For OS, AJCC7 and AJCC8 were comparable, however, after adjusting for radiotherapy, AJCC7 TNM staging was superior. Data from Chris O'Brien Lifehouse similarly found AJCC8 to be inferior to AJCC7.

Conclusion: The revised 8th edition staging for metastatic cutaneous SCCHN classifies the majority of patients into TNM Stage IV based on the presence of ENE and is inferior to AJCC7 in predicting outcomes.

THE PROGNOSTIC IMPACT OF NUMBER OF NODAL METASTASES IN METASTATIC CUTANEOUS SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK

Mr Ashish Sood, Dr Vanessa Estall, Prof Ardan Ebrahimi, Dr James Wykes, Mr David Roshan, Dr John McGuinness, Dr Dion Forstner, Dr Allan Fowler, Dr Mark Lee, Dr Michael Kernohan, Dr Quan Ngo

Liverpool Hospital, New South Wales, Australia

Purpose: Existing prognostic systems for metastatic cutaneous squamous cell cancer of the head and neck (cSCCHN) do not discriminate between the number of involved nodes beyond single versus multiple. This study examined whether the number of nodal metastases provided additional prognostic information to the current AJCC staging system.

Methodology: We retrospectively analysed 101 patients treated for metastatic cSCCHN with curative intent at Liverpool Hospital, Sydney. The impact of number of nodal metastases and select clinicopathological variables on disease-free survival (DFS) was assessed using multivariable Cox regression. The Akaike Information Criterion, Harrell's Concordance Index and Proportion of Variation Explained were used to identify optimal cut-offs for number of nodal metastases.

Results: On multivariable analysis, total number of nodal metastases significantly predicted reduced DFS (HR, 1.17; 95% CI: 1.05-1.30; $p=0.004$), with 17% increased risk of recurrence or death for each additional node involved. This remained significant after adding AJCC7 N stage into the regression model. An optimal cut-point for prognostic discrimination of <8 versus ≥ 8 metastatic nodes was identified (HR, 4.79; 95% CI: 2.01-11.4; $p<0.001$). There was no prognostic discrimination between single versus multiple involved nodes. Extracapsular spread (HR, 2.47; 95% CI: 1.07-5.66; $p=0.033$) and absence of adjuvant radiation therapy (HR, 0.22, 95% CI: 0.08-0.58; $p=0.002$) also predicted reduced DFS.

Conclusion: In this study, increasing number of nodal metastases is an independent predictor of reduced DFS in metastatic cSCCHN, even after adjusting for AJCC7 N stage. This suggests the AJCC N stage prognostic performance may be improved by incorporating additional information on the number of nodal metastases but this requires further study.

RADIATION-INDUCED CHANGES IN THE EXPRESSION OF MUCIN IN ORAL MUCOSA

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Human salivary glands secrete glycosylated proteins, mucins, as a normal part of mucosal pellicle and saliva. Mucin 1 (MUC 1) is secreted from the mucosal epithelial itself on the apical surface, forming a lubricated and protective surface on oral epithelium. Treatments of head and neck cancers, especially oral squamous cell carcinomas (OSCC) include radiation therapy (RT), chemotherapy and surgical resection. RT effects the cancer cells and also surrounding healthy oral epithelial cells. The early adverse effects of RT are e.g. mucositis. The presence of MUC1 was examined by immunohistochemical methods in 18 OSCC patients who received RT and surgical therapy, 5 OSCC patients received only surgical therapy and 47 control oral mucosal biopsies. All the samples were prepared routinely for light microscopy examination. The localization, intensity and difference of the epithelial expression between irradiated and non-irradiated samples were analyzed statistically (IBM SPSS statistics). MUC 1 staining in irradiated samples had minor superficial intensity than controls ($P > 0.01$), in irradiated samples MUC 1 expression was detected on basal and intermediate layers or unusual strong staining in all layers. MUC 1 intensity in basal layer between irradiated and non-irradiated samples were significant ($P < 0.001$). RT affects the expression of MUC 1 in basal and intermediate layers in oral epithelium compared to normal apical expression of non-irradiated epithelium, and may therefore play a role in manifestation of mucositis or cancer progression.

This study is funded by Finnish Dental Society Apollonia (to HU and AMK).

DOES HPV STATUS IMPACT ON THE NEED FOR A FEEDING TUBE DURING TREATMENT FOR OROPHARYNX CANCER?

Miss Belinda Vangelov, A/Prof Robert Smee, Ms Janet Williams

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Purpose: Feeding tubes are often required during the treatment of oropharynx cancer when patients are unable to meet nutritional requirements orally due to treatment-related toxicities. We aimed to investigate feeding tube use in patients with human papillomavirus (HPV) related disease and the nutritional issues experienced in this population.

Methodology: This is a single-institution retrospective study of adult patients with oropharynx cancer who received radiotherapy (RT) \pm chemotherapy at The Prince of Wales Hospital between 2011-2015. Feeding tube use was investigated in relation to HPV status. Outcomes such as critical weight loss (CWL) (defined as a loss of $\geq 5\%$ during RT), and tube dependence were also evaluated.

Results: A total of 77 patients were included in the cohort, with 48 (62%) confirmed to be HPV+ (positive). All HPV+ patients had advanced stage disease, with 90% treated using concurrent chemoradiotherapy. Higher mean percentage weight loss was observed in the HPV+ group (8.4% vs 6.3%, $p = 0.013$) with a significantly higher number of HPV+ patients experiencing CWL (96%) ($p = 0.023$). These patients were found to be seven times more likely to have CWL during RT (95% CI 1.4-38.2) ($p = 0.018$). Feeding tubes were used in 49 (65%) patients, mostly reactive (53%) with highest use in the HPV+ group ($n = 32$, 65%). All patients who had a reactive tube experienced CWL. No difference was observed in the number of days fed with a reactive gastrostomy tube compared to prophylactic gastrostomy in HPV+ patients. Only 3 patients required feeding 6 months post RT.

Conclusion: Patients with oropharynx cancer are at nutritional risk regardless of HPV status, thus it should not influence decisions for prophylactic feeding tube insertion. Research involving larger populations is required.

Verbal Presentation Abstracts (cont'd)

LYMPH NODE RATIO AS A PROGNOSTIC FACTOR IN METASTATIC CUTANEOUS HEAD AND NECK SQUAMOUS CELL CARCINOMA

Dr Kartik Vasan, Dr Hubert Low, A/ Prof Ruta Gupta, Dr Bruce Ashford, Ms Rebecca Asher, Mr Kan Gao, A/Prof Sydney Ch'Ng, A/ Prof Carsten Palme, Prof Jonathan Clark

Chris O'Brien Lifehouse, New South Wales, Australia

Purpose: The prognostic impact of the size and number of nodal metastases in head and neck cutaneous squamous cell carcinoma (HNCSCC) is well established, however the role of the lymph node ratio (LNR) is still unclear in the literature. The aim of the study was to validate the prognostic significance of LNR in a large cohort with metastatic HNCSCC treated with curative intent.

Methodology: A retrospective review of all HNCSCC patients with parotid and/or cervical nodal metastases in the Sydney Head and Neck Cancer Institute Database from 1985-2015 was performed. The primary endpoints were overall survival (OS) and disease free survival (DFS). The minimal-p approach was used to investigate an optimal LNR threshold, stratifying patients into low and high risk groups. Cox proportional hazard regression models and Kaplan-Meier methods were used for survival analysis.

Results: There were a total of 326 patients with a mean age of 73.311.9 years. Our data included 77 (24%) recurrences and 101 (31%) deaths. The median LNR was 9.1% with an average nodal yield (NY) of 29 nodes, with a median of 2.0 (range 1-67) positive nodes. An LNR of 6% was a significant predictor of shorter DFS (HR: 1.62; 95 % CI: 1.11-2.38, $p=0.01$) and OS (HR: 1.63; 95 % CI: 1.03-2.58, $p=0.04$) on multivariable analysis. In an average neck dissection, where an average NY is 29 nodes, having 2 or more lymph nodes should be considered as high risk of disease recurrence.

Conclusion: The LNR is an independent prognosticator of survival outcomes in patients presenting with metastatic HNCSCC. An LNR >6% is a significant threshold to stratify patients into low and high risk categories.

AMELOBASTOMA IN A 86 Y/O: CLINICAL AND RADIOLOGICAL FINDINGS TO BE AWARE OF

Dr Veena Wadhera, Dr Eliza Tweddle

Albury Wodonga Hospital, New South Wales, Australia

Introduction: Ameloblastoma is a rare odontogenic tumour, that when arising from the maxilla can present with invasive clinical and radiological signs. We discuss our experience with an invasive tumour causing destruction of the sinonasal cavity and important clinical and radiological features that should be considered by surgeons in their clinical approach to sinonasal tumours. Case Description An 89 y/o Mediterranean man presented with progressive left sided nasal obstruction and discharge over some months. On examination he had an expansive mass distorting the lateral nasal wall and filling the left nasal cavity. Appearance on CT confirmed a destructive mass, with expansile features and also fluid collections. Prompt surgical biopsy was arranged and histological diagnosis showed an ameloblastoma.

Discussion: There is little published on maxillary ameloblastomas. Our experience with this case highlights key radiological features that are consistent with this benign lesion. Importantly, features differentiating it from other malignant nasal tumours will be explored. This is a rare clinical entity that contributes importantly to the radiological features of sinonasal masses and highlights features that we as clinicians should be more aware of.

MINIMALLY INVASIVE MANAGEMENT OF LARYNGEAL CHONDROSARCOMA: OUR EXPERIENCE WITH POWERED DEBRIDEMENT AND AN ANALYSIS OF OUTCOMES

Dr Veena Wadhera, Dr Eliza Tweddle, Dr Ben Dixon

Albury Wodonga Hospital, New South Wales, Australia

Introduction: Laryngeal Chondrosarcomas are slow growing and rarely metastasize. The traditional approach to treatment requires a laryngectomy to satisfy oncological clearance. This presentation describes and justifies our approach to debulking a cricoid chondrosarcoma with a powered debrider. I will discuss various function preserving surgical approaches as described in the literature. I will compare outcomes, highlighting important considerations in the surgical management of this disease. Case Description AB a 42 y/o female was referred to our practice with an incidental finding of a T1N0Mx cricoid chondrosarcoma. She had a slightly hoarse voice and pharyngeal irritation on further history. The lesion was monitored for 20 months with CT and MRI until progression called for intervention.

CT guided biopsy with a bone biopsy needle confirmed a low grade chondrosarcoma. She was referred to a tertiary centre where an endoscopic debriider was used to debulk the lesion with a drilling technique.

Methodology: A literature review was carried out returning 26 articles describing the surgical management of cricoid chondrosarcomas. The available evidence includes only case series and individual case reports.

Discussion/Conclusions: All surgical approaches had good long term outcomes and low rates of recurrence. Reconstruction methods with cricoideotomy include rotational thyrotracheopexy and anastomosis over a stent or rib graft. Debulking approaches include excision using endoscopic instruments, laryngofissure, thyrotomy or partial laryngectomy approaches. Excisional approaches have similarly good phonatory outcomes as our technique, however had poor outcomes in terms of swallow and failure to decannulate. Importantly, tumour free margins in the cricoideotomy cases did not represent a guarantee that recurrence will not take place.

THE FIRST THREE YEARS OF A RURAL CENTRES EXPERIENCE WITH PET: HEAD AND NECK PERSPECTIVES

Dr Veena Wadhwa, Dr Eliza Tweddle

Albury Wodonga Hospital, New South Wales, Australia

Purpose: Albury Wodonga Health is a regional centre servicing a catchment area of 250,000. For the past 20 years we have offered a comprehensive Head and Neck Oncology Multidisciplinary Team with supports from St Vincents in Melbourne. We have had a PET scanner for the past 4 years which has supported our oncological practice. We are able to offer a comprehensive workup and surveillance with this resource. This study aims to audit our practice and analyse the impacts in a regional and state health context.

Methodology & Results: This presentation considers the impact from a cost perspective, patient impact and also their outcomes. We will audit our rates of new diagnoses, metastasis and recurrence. We will compare incidental rates pre and post local PET equipment to consider the impact. A cost analysis will explore the benefits on a local and state levels. We will compare our services to those surrounding and other models of comprehensive oncological care in rural and regional contexts.

Conclusion: Since the addition of a PET scanner to the practice of our Head and Neck Oncology MDT, we have been supported to offer local patients comprehensive care. This reduces costs on an individual and state level and is preferred by patients.

WHAT ARE THE COSTS OF DELIVERING INTENSIVE, PROPHYLACTIC SWALLOWING THERAPY TO PATIENTS WITH HEAD/NECK CANCER VIA TELEHEALTH? AN ECONOMIC ANALYSIS OF A 3-ARM RCT

Dr Laurelie Wall, Prof Elizabeth Ward, Dr Bena Cartmill, Dr Anne Hill, Prof Elizabeth Isenring, Dr Joshua Byrnes, Dr Sanjeeva Kularatna, Prof Sandro Porceddu

Metro South Hospital & Health Service, Queensland, Australia

Purpose: Research advocates for the use of intensive, prophylactic swallowing therapy to help reduce the severity of dysphagia in patients receiving (chemo)radiotherapy (CRT) for head/neck cancer (HNC). Unfortunately, the intensity of this therapy, growing patient numbers and limited clinical resources, provide challenges to many international cancer facilities. Telehealth has been proposed as a potential method to enhance patient support for home-practice, whilst minimising burden to the health service. This study investigated the clinical and patient-attributable costs of delivering an intensive, prophylactic swallowing therapy protocol via a new telepractice application, "SwallowIT", as compared to two traditional service models: clinician-directed FTF therapy and independent patient self-directed therapy.

Methodology: Patients (n = 79) with oropharyngeal HNC receiving definitive CRT were stratified by swallowing function then randomised to 1 of the 3 service-delivery models: (1) clinician-directed therapy (n=24), (2) patient-directed home-practice (n=26), or (3) "SwallowIT"-assisted therapy (n=25). Comparative economic modelling examined patient-attributable costs (e.g., travel time), staff-attributable costs (e.g., clinician time) and infrastructure/consumables. Cost-effectiveness analysis was informed by quality of life outcomes recorded using the AQoL-6D.

Results: SwallowIT provided a cost-efficient model of care when compared to the clinician-directed model, with significant cost savings to both the health service and to HNC consumers (mean saving = \$1901.10 AUD per patient; p<0.001). SwallowIT also proved more cost-effective than the patient-directed model, yielding clinically significantly superior QoL at the end of CRT, for comparable costs.

Conclusion: SwallowIT offers a financially viable and cost-effective method for delivering intensive, prophylactic swallowing therapy to HNC patients during CRT.

Verbal Presentation Abstracts (cont'd)

EVALUATION OF A SPEECH PATHOLOGY/ DIETETIC PRE-TREATMENT GROUP EDUCATION MODEL FOR PATIENTS WITH HEAD AND NECK CANCER RECEIVING (CHEMO)RADIOTHERAPY

Dr Bena Cartmill, **Dr Laurelie Wall**, Prof Elizabeth Ward,
Ms Wendy Sim, Dr Eric Fong, Ms Ann Brown,
Ms Annie Johnson, Prof Sandro Porceddu

*Metro South Hospital & Health Service, Queensland,
Australia*

Purpose: Speech-language pathology and dietetics/ nutrition (SP/DN) input is a vital component of supportive head and neck cancer (HNC) care. Novel service-delivery solutions to provide sustainable care to this continually growing population are required. This study investigates the viability of providing pre-treatment education in a group model, in comparison to traditional individual education, to patients with HNC prior to (chemo) radiotherapy treatment.

Methodology: A retrospective, non-inferiority study examined 191 patients with HNC who attended pre-treatment SP/DN individual (year range 2011-2012) or group education (year range 2013-2014) sessions. Swallowing and nutrition outcomes (diet and fluid consistency, FOIS score, weight, and presence of alternative feeding) at baseline and the final week of (chemo)radiotherapy treatment were retrieved and compared across the two cohorts using independent t-tests and chi-square tests.

Results: At baseline, no statistically significant differences were found between both individual and group education cohorts. At final SP/DN review, both individual and group education cohorts yielded similar swallowing and nutrition outcomes, with the exception of diet consistency ($p = 0.0017$). A greater proportion of the individual education cohort were unable to tolerate any oral intake at final SP/DN review.

Conclusions: This study found that pre-treatment SP/DN group education was not inferior to individual education in terms of clinical patient outcomes, suggesting that group education is a viable option to address service-delivery demands.

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Poster Presentation Abstracts

Listed in alphabetical order according to Presenter's surname. Presenters appear in bold.

RESPONSE TO INDUCTION CHEMOTHERAPY WITH CISPLATIN AND DOCETAXEL IN NASOPHARYNGEAL CARCINOMA AND ITS CORRELATION TO OVERALL SURVIVAL: TERTIARY CENTRE EXPERIENCE IN THE MIDDLE EASTERN POPULATION

Dr Muhammad Ali, Dr Ashraf Farag, Dr Arif Shaukat, Dr Magdy Kandil, Dr Bilal Mohammad, Dr Mansoor Wahid, Dr Jawaher Ansari, Dr Arwa Ali

Prince Sultan Military Medical City, Riyadh, Saudi Arabia

Background: Concurrent chemo-radiation (CCRT) followed by adjuvant chemotherapy is the recommended treatment option for patients with locally advanced nasopharyngeal carcinoma (NPC). There is emerging evidence to support the role of induction chemotherapy (IC) with cisplatin, fluorouracil, and docetaxel (TPF) prior to CCRT in NPC. The prognostic significance of tumour response to IC remains unknown. The aim of this retrospective study is to assess the efficacy of IC with cisplatin and docetaxel (TP) and to correlate IC response with 3-year overall survival (OS).

Material and Method: Between 2010 and 2015, 82 patients with pathologically proven NPC were seen at our institution. 49 (60%) patients received IC with cisplatin 75mg/m² and docetaxel 75mg/m² day 1 intravenously every 21 days for 2-4 cycles followed by CCRT. 3-weekly cisplatin 100mg/m² or weekly cisplatin 40mg/m² was used as concurrent chemotherapy during radiation. Response assessment done by RECIST 1.1 and Data analysis done by SPSS v20.

Results: The median age was 46 years (range 14-70) with a M:F ratio of 5:1. AJCC staging 8th edition revealed stage 2, 3 and 4 in 3 (6.1%), 21 (42.9%) and 25 (51%) patients, respectively. 10.2%, 69.4%, 12.2% and 8.2% achieved complete response (CR), partial response (PR), stable disease (SD) and progressive disease (PD) after IC, respectively. 85.7% of patients achieved complete response after completion of CCRT. After a median follow-up of 3.7 years, the 3-year Kaplan-Meier estimated OS for patients achieving CR, PR, SD and PD after IC was 100%, 93.8%, 66.7% and 25%, respectively. On univariate analysis, response to IC appears to have significant correlation to 3-year OS ($P < 0.001$).

Conclusion: Objective Response to IC with TP is encouraging and appears to be a surrogate marker for long-term disease outcomes such as 3-year OS. Prospective studies are needed to further ascertain the therapeutic significance of IC with TP and its role in predicting treatment outcomes.

CERVICAL NECROTISING FASCIITIS WITH DESCENDING NECROTISING MEDIASTITIS SECONDARY TO PERITONSILLAR ABSCESS – A RARE CASE PRESENTATION AND REVIEW OF THE LITERATURE

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Royal Brisbane and Women's Hospital, Queensland, Australia

Introduction: Cervical necrotising fasciitis (CNF) a rare bacterial infection of the deeper soft tissues of the neck, characterised by extensive necrosis in the subcutaneous tissue and fascia. Despite optimal therapy and early surgical intervention, cervical necrotising fasciitis is associated with a mortality rate between 25-40% (Sultan, BMJ, 2012). Descending Necrotising Mediastinitis (DNM) is a serious complication of descending cervical necrotising fasciitis with a significantly higher mortality rate.

Case Presentation: A 45-year-old male presented with a quinsy with poorly controlled type-II DM. Despite repeated drainage of the peritonsillar collection the patient continued to deteriorate. On day four a CT showed extensive fluid and gas extending down the neck with a diagnosis of CNF confirmed intraoperatively. Despite radical debridement from skull base to clavicle of the right neck, the patient failed to respond. On the third theatre visit necrotic tissue and pus was evident at the sternal notch, leading to thoracotomy and debridement of the superior mediastinum with subsequent improvement of physiology. The subsequent skin defect left exposure of his right cervical vessels and nerves. A Latissimus Dorsi and Serratus Anterior pedicle flap was performed for reconstruction.

Discussion: CNF and DNM is a rare disease with limited cases reported. There is an associated mortality rate of over 50% with delayed or non-invasive intervention (Marty-Ane et al., Ann Thoracic Surg, 1999). There have been significant improvements in outcomes with early aggressive surgical/microbiological interventions with a series reporting an 11% mortality rate (Ridder et al., Ann Surg, 2010). This case of DNM reinforces early aggressive mediastinal debridement. We present this case with a review of the literature and discuss optimal management principles to reduce mortality in these select patients.

Poster Presentation Abstracts (cont'd)

CARCINOMA CUNICULATUM OF THE ORAL CAVITY: A RARE ENTITY IN A YOUNG CHILD

Dr Stuart Bailey, Dr Robert Calvisi

Lady Cilento Hospital, Queensland, Australia

Carcinoma cuniculatum (CC) is a rare variant of low-grade squamous cell carcinoma (SCC) that was first described in the foot in 1954. Its exophytic appearance can mimic the appearance of verrucous carcinoma. In a recent case series of 25 patients, the mean age was 58 years of age. A 12-year-old boy presented with a long history of progressively loosening upper molars. Computed tomography showed an invasive lesion arising from the gingival margin of the upper molars and extending into the maxillary sinus. A subsequent core biopsy revealed CC. The patient underwent a maxillectomy with a deep circumflex iliac artery free flap reconstruction. At 6 months he remains disease free and has minimal functional or cosmetic issues. CC is an extremely rare entity and exceedingly so in this age group. The diagnosis remains difficult to make and there is a scarcity of data surrounding adjuvant treatment in these patients so complete surgical excision is crucial.

TISSUE EXPANDED BILATERAL FOREHEAD FLAPS WITH CARTILAGE GRAFT FOR TOTAL NASAL RECONSTRUCTION

Dr Robert Calvisi, Dr Kieran Rowe, Dr Daniel Rowe

Princess Alexandra Hospital, Queensland, Australia

We describe a bespoke method for reconstruction of the total nasal defect using tissue expanded bilateral forehead flaps and rib cartilage for skeletal support. This method was implemented in a 50 year old patient with recurrent infiltrative sclerosing BCC of the nose, which resulted in a total rhinectomy defect. We performed a delayed reconstruction after histological clearance was confirmed. In our method, bilateral forehead flaps were designed in a pre-expanded forehead using the supra-orbital arteries as source vessels. One flap was used for lining and the other for external skin with cartilage graft sandwiched between the two layers. 6th rib cartilage was carved and shaped to the defect using a patient selected preoperative 3D model. We found that the pre-expanded forehead skin gave a thin, pliable, and well vascularised tissue that was ideal for this reconstruction. An appreciable functional and aesthetic result was achieved with this procedure without the need for numerous thinning and modification procedures.

A STATE WIDE SURVEY OF DISINFECTION TECHNIQUES FOR NASENDOSCOPES IN QUEENSLAND ENT OUT-PATIENT DEPARTMENTS

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Introduction: Flexible nasendoscopy is an important part of the diagnostic process in Otorhinolaryngology. Flexible nasendoscopes come in close contact with mucous membranes of the upper aerodigestive tract. Therefore, appropriate and effective disinfection is vital to prevent iatrogenic infection and cross contamination. Disinfection techniques include immersion or wipes with liquid HLD, automated endoscope reprocessors (AEM) and disposable endosheaths. The lack of official national reprocessing guidelines has led to varying and inconsistent practice amongst ENT centres in Australia.

Method: A questionnaire was sent to 12 Queensland ENT out-patient departments to establish current practice. **Results:** 67% (N=8) of hospitals used manual disinfection and 33% (N=4) used automated endoscope reprocessors. Manual disinfection with Tristel was used in most (N=7) departments and Cidex was used in one hospital. The same disinfection technique was used after hours and in high risk patients (HIV, Hepatitis B, Hepatitis C, pulmonary tuberculosis) in all hospitals. The efficacy and time were the main factors that influenced the disinfection techniques used. The majority (75%) of centres cleaned nasendoscopes in the ENT out-patient department and 25% in the Central Sterile Services Department (CSSD). A permanent record of nasendoscope maintenance, reprocessing and patient tracking system were used in all departments.

Conclusion: The disinfection techniques and disinfectant agents vary considerably across ENT out-patient departments in Queensland. Hence, a state wide disinfection guideline would be beneficial to ensure that reprocessing of nasendoscopes is standardised regardless of the technique used across the state.

REPORTING PG-SGA, PSS-HN, AND FOIS ASSESSMENTS IN ARIA FOR HEAD AND NECK CANCER PATIENTS

Mr Andrew Do, Ms Louise Malcolm, Ms Jessica Bain
Epworth Healthcare, Victoria, Australia

Head and neck cancer patients undergoing Radiation Therapy are referred on to Speech Pathologists and Dietitians for the assessment and ongoing management of their nutritional status, speech and swallow function during treatment. Outcome measures are collected to monitor patient progress and assess the impact of the service on clinical care. Dietitians use the Scored Patient-Generated Subjective Global Assessment (PG-SGA) form comprising of a number of worksheets and calculations to provide a global malnutrition assessment category and total PG-SGA score. Speech Pathologists use the Performance Status Scale for Head and Neck Cancer patients (PSS-HN) & Functional Oral Intake Scale (FOIS) forms to measure a variety of speech and swallow outcomes. Speech Pathologists and Dietitians were manually working through spreadsheets during patient assessments for head and neck cancer undergoing Radiation Therapy. Results (score) were manually calculated & then typed into spreadsheets. Any summaries required were produced through manual manipulation of spreadsheets. ARIA is an Information System extensively used at the Epworth for Medical Oncology and Radiation Oncology patients. It was a priority that the same system was utilised by Dietitians and Speech Pathologists in order for information to be securely stored and accessible through the patient file. The work presented in this presentation exhibits the process of building processes for Allied Health members compatible with the existing system and workflows, design and conversion of electronic forms (called Questionnaires) to replace paper-based workflow, and utilising questionnaire data through a suite of custom-built reports in order to generate summaries consisting of tables, charts etc. The result is a secure, seamless, standardised, and innovative solution for Dietitians and Speech Pathologists to record and monitor the status and progress of head and neck radiotherapy patients.

PREDICTORS OF RECURRENCE IN PAPILLARY THYROID MICROCARCINOMA

Dr Evan Tseros, Dr Ardalan Ebrahimi, Dr James Wykes, David Roshan, Dr Bryan Tran, Earl Abraham, Dr Peter Campbell, **Dr Neel Gore**

Liverpool Hospital, New South Wales, Australia

Purpose: Although papillary thyroid microcarcinoma (PTMC) is associated with excellent survival, disease recurrence does affect selected patients. The extent of surgery and role of adjuvant radio-active iodine (RAI) remain controversial. The purpose of this study was to identify predictors of disease recurrence in PTMC since improved risk stratification may guide management and surveillance.

Methodology: We performed a retrospective analysis of 265 patients with PTMC treated at Liverpool Hospital, Sydney. Multivariate Cox regression was used to evaluate the association between potential prognostic factors and recurrence-free survival.

Results: The majority of patients underwent total thyroidectomy (86%) and 38% received RAI. After a median follow-up of 3 years, there were 16 (6%) recurrences. On multivariable analysis, involved margins (HR 6.7; 95% CI: 2.2-20.8; $p=0.001$), extranodal extension [ENE (HR 6.0; 95% CI: 1.3-28.5; $p=0.024$)] and distant metastases (HR 29.5; 95% CI: 6.0-143.1; $p<0.001$) were statistically significant predictors of recurrence. These findings were robust to adjustment for RAI administration. In the subset of 244 patients with no lateral neck or distant metastases at presentation, positive margins (HR 8.7; 95% CI: 2.4-31.0; $p=0.001$) and lymphovascular invasion [LVI (HR 8.9; 95% CI: 1.9-42.6; $p=0.006$)] were significant predictors of recurrence on univariate analysis but multivariable analysis could not be performed due to limited number of events. The absolute risk of recurrence with involved margins and LVI in this subgroup was 20% and 22%, respectively.

Conclusion: Involved margins, ENE, LVI and distant metastases significantly increase the risk of disease recurrence in PTMC. In view of the high recurrence rates, we recommend consideration of adjuvant RAI in patients with PTMC and microscopic positive margins or LVI, even in the absence of other adverse prognostic features.

Poster Presentation Abstracts (cont'd)

SURGICAL MANAGEMENT OF PLUNGING RANULAS; A TEN YEAR CASE SERIES IN A SOUTH EAST QUEENSLAND HOSPITAL

Dr Jonathan Lomas, Dr Dhina Chandran,
Dr Bernard Whitfield

Logan Hospital, Queensland, Australia

Introduction: Ranulas are relatively rare mucous extravasation cysts of the sublingual gland. Plunging ranulas occur when there is herniation into the submandibular space of the neck, often due to congenital deficiencies of the mylohyoid muscle. The aim of this study was to review surgical management of this uncommon presentation in a non-tertiary hospital setting in South East Queensland.

Method: A retrospective chart review of adult patients from 2006 to 2016 at Logan Hospital in South East Queensland was conducted. 18 plunging ranulas were treated by excision of the sublingual gland during this period. We examined age, gender, ethnicity, pre-operative imaging and fine needle aspiration, surgical procedure, histological confirmation, recurrence and complication rates.

Results: All 18 cases were treated via intra-oral excision of the sublingual gland. Recurrence rate was 11% (N=2) requiring re-excision of sublingual gland remnant tissue in both cases. Post-operative complication rate was 22% (N=4) with haematoma and abscess being the most common. The mean age at presentation was 28.8 years with a 3:1 female to male predominance. 55% (N=10) of patients were of South Pacific Islander heritage. MRI (50%, N=9) was the most common pre-operative imaging modality utilised followed closely by CT. Pre-operative fine needle aspirate was obtained in 33% (N=6) of cases. Post-operative histological confirmation of mucocele was seen in 61% (N=11) of cases.

Conclusion: This retrospective study demonstrates excision of the sublingual gland is an effective treatment for plunging ranula. The majority of plunging ranulas occur in patients less than 30 years with a high incidence in South Pacific Islanders, which is consistent with previous studies suggesting an underlying genetic predisposition to this condition.

ORAL SQUAMOUS CELL CARCINOMA ASSOCIATED WITH ORAL SUBMUCOUS FIBROSIS HAVE BETTER ONCOLOGIC OUTCOME THAN THOSE WITHOUT

Dr Akshat Malik, Dr Pankaj Chaturvedi, Dr Deepa Nair,
Dr Sudhir Nair, Dr Aseem Mishra, Dr Apurva Garg,
Dr Sagar Vaishampayan

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Objectives: Oral submucous fibrosis (OSMF) is a potentially malignant disorder associated with the use of areca nut and is mainly seen in the parts of South-East Asia and Indian sub-continent. We hypothesized that Oral cancers occurring in presence of OSMF are clinico-pathologically a distinct entity.

Study design: We analyzed 289 treatment naïve patients of oral cancer. They were followed up for a median of 44 months. Association of presence of OSMF with other histopathological factors was done using Chi square test. Kaplan Meier analysis was used for survival analysis.

Results: Oral squamous cell carcinoma along with OSMF was seen more often in younger patients ($p < 0.001$), males ($p < 0.007$) and had a lower T ($p < 0.002$), N stage ($p < 0.000$). These were thinner ($p < 0.002$), less infiltrative ($p < 0.04$) tumors and required adjuvant therapy less frequently ($p < 0.017$). The mean disease specific survival, overall for those with and without OSMF was 58.8 and 48.6 months ($p < 0.002$) and specifically for stages III, IV was 49.4 and 38.5 months respectively ($p < 0.053$).

Conclusion: Oral squamous cell carcinomas associated with OSMF are associated with good clinico-pathological profile and have better prognosis and oncological outcomes.

OUTCOMES OF PATIENTS WITH HEAD AND NECK SCC OF UNKNOWN PRIMARY TREATED WITH CONCURRENT CHEMORADIO THERAPY

Dr Rajith Mendis, Dr M Smith, Dr F Riffat,
Dr P Sunderesan, Dr M Abdul-Razak, A/Prof M Veness,
Dr E Wong, Dr S Chan, A/Prof G Morgan, Dr K Tiver,
Dr L Perera, A/Prof C E Palme
Westmead Hospital, New South Wales, Australia

Purpose: There is a lack of consensus in the management of patients with metastatic squamous cell carcinoma in the head and neck (HNSCC) from an unknown primary. We examined our institution's practice and outcomes in managing HNSCC of unknown primary.

Methodology: Patients diagnosed with biopsy confirmed HNSCC of unknown primary, between 2006 and 2014, were identified. All underwent thorough clinical and radiological examination (including nasendoscopy and PET/CT). Patients were excluded if they had distant metastases or had another malignancy in the preceding 5 years. Patient, tumour, treatment and outcome data were obtained from medical records.

Results: Of 37 eligible patients (median age 60 years), the majority were male (92%), smokers or ex-smokers (59%) and of good performance status (92% ECOG 0 at diagnosis) The majority (76%) of patients received chemo-RT to the bilateral neck and mucosal sites. Other treatments involved chemo-RT to the unilateral neck (11%), neck dissection with adjuvant RT (8%), and RT alone (5%). Twenty-six (70%) patients were disease free at median follow up of 46 months (6-114 months), with 24 (65%) having not experienced recurrence or primary emergence. Two patients who relapsed in the neck were salvaged with neck dissection. Two patients developed primary emergence at untreated mucosal sites, both in the base of tongue. Of the 6 patients with persistent or progressive disease, 1 underwent successful salvage surgery and the other 5 were treated with palliative intent.

Conclusion: Most (79%) patients treated with definitive chemo-RT to the bilateral neck and putative mucosal sites of primary were disease free at a median follow up of 46 months. Patients treated with a unilateral approach had poorer outcomes regardless of the modality of treatment.

AGGRESSIVE SQUAMOUS CELL CARCINOMA IN PATIENTS WITH DISCOID LUPUS ERYTHEMATOSUS: CASE REPORT & REVIEW OF THE LITERATURE

Joshua Phillips, Carly Fox, Darryl Dunn,
Royal Brisbane and Women's Hospital, Queensland, Australia

Background: Discoid lupus erythematosus (DLE) is a chronic condition characterized by erythematous, scaly depigmented plaques. It may occur as a single entity or as a clinical feature of systemic lupus erythematosus. The discoid plaques which are characteristic of DLE have a known potential for malignant degeneration to squamous cell carcinoma (SCC) with poor outcomes. There are less than 100 cases having been reported in the literature since 1950. We feel an analysis of the epidemiology and risk factors for SCC in the setting of DLE is required.

Method: A systematic literature search was performed using Medline and PubMed databases. Specifically, the epidemiology, risk factors, management, morbidity and mortality in patients presenting with SCC in the setting of DLE was established. We discuss an illustrative case of a 34-year-old man with DLE who succumbed to aggressive SCC of the lower lip, 22 months after initial diagnosis.

Results: The overall incidence of SCC amongst a DLE population is reported as between 0.98% and 6.9%. The mechanism by which malignant degeneration occurs is unknown, but multiple risk factors have been implicated, including chronic inflammation, scarring, UV exposure, and the use of systemic immunosuppressants. Greater incidence rates were observed amongst male patients and those with a smoking history, though mixed results were obtained regarding the influence of racial background. All studies agreed that SCC in a DLE setting displays higher rates of recurrence, metastasis and mortality.

Conclusions: SCC in the setting of DLE is an aggressive clinical entity. Surgeons must maintain a high index of suspicion, and undertake assertive, early management of the disease given that metastatic SCC in this patient population has a mortality approaching 100%.

Poster Presentation Abstracts (cont'd)

MANAGEMENT OF THE N0 NECK IN METASTATIC CUTANEOUS SQUAMOUS CELL CARCINOMA TO THE PAROTID GLAND – A SYSTEMATIC REVIEW

Dr Anthony Rotman, Mr Charles Giddings,
Dr Stephen Ryan

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Purpose: Management of metastatic cutaneous squamous cell carcinoma (SCC) to the parotid gland is typically managed by performing a parotidectomy, with or without post-operative radiotherapy. There is much debate however as to management of the neck when there is no clinical or radiological evidence of cervical metastases, designated cP+N0. This systematic review aims to assess the rate of occult cervical disease and to determine current practice in the cP+N0 neck.

Methodology: A literature search was performed using Medline and Embase databases. Search terms included 'Neck dissection', 'Parotid' and 'Cutaneous squamous cell carcinoma'. Strict inclusion and exclusion criteria were then applied, namely that there was a detailed account of occult disease rate and management of the cP+N0 neck.

Results: A total of 89 papers were identified in the study period from January 1st 1991 to December 31st 2016. Eighteen met inclusion criteria. A total of 884 elective neck dissections were performed, yielding an occult disease rate of 23.1%. Occult disease was typically located in levels II and III. Few papers commented on the additional morbidity of elective neck dissection.

Conclusion: Occult cervical metastases in patients with metastatic cutaneous SCC to the parotid gland are not uncommon. Most papers in this review recommended elective neck dissection in addition to treatment of the parotid.

CROSS-SECTIONAL SURVEY ASSESSING THE KNOWLEDGE OF SURGICAL PLUME AMONG THEATRE STAFF

Dr Thomas Stewart, Dr Indu Gunawardena

Gosford District Hospital, New South Wales, Australia

Purpose: Electrocautery and carbon dioxide laser are two surgical techniques that are routinely utilised in head and neck procedures. Unfortunately, these techniques release noxious airborne contaminants, known as surgical plume, that contain biological matter and chemical components. Inhalation can put theatre staff at risk of respiratory complaints, as well as disease transmission. Formal education for theatre staff regarding the risks of surgical plume is often sparse or variable. We attempted to assess the knowledge of the risks of surgical plume among theatre staff at a single Australian regional hospital.

Method: All medical and nursing staff employed at Gosford Hospital's operating theatres between October 2016 and February 2017, regardless of specialty exposure or level of training, were invited to participate in an online anonymous survey. Questions were designed to assess overall participant understanding of surgical plume risks, minimisation measures and knowledge of the local policy guidelines.

Results: A total of 86 employees completed the survey, of which 23 were anaesthetists or surgeons, and 63 were nursing staff. 92% recognised that surgical smoke was harmful, while 77% considered this to be the same with laser plume. 39% responded that smoke evacuators will remove all harmful components of surgical plume. 30% responded that N95-rated masks will filter all particulate matter within surgical smoke. 40% stated that they used a N95-rated mask for all laser procedures.

Conclusion: The local knowledge base of the risks related to surgical plume is inadequate. Given the more widespread use of techniques such as laser, we recommend that formal education and training be instituted to help mitigate risks as this will be an increasing occupational health and safety issue in the future.

INCREASING INCIDENCE ORAL TONGUE CANCER – START OF A NEW TREND OR COINCIDENCE?

Dr Laura Wang, Dr Ruta Gupta, Mr Kan Gao,
Dr Hubert Low, Dr N Gopal Iyer, Prof Jonathan Clark

Chris O'Brien Lifecare, New South Wales, Australia

Background: In contrast to oropharyngeal cancer, oral cancer rates are thought to be decreasing in recent years. Large US series have demonstrated decreased incidence of oral cavity cancers in most subsites. This trend has largely been attributed to successful smoking awareness campaigns. In Australia, smoking rates have fallen from 25% in 1990 to 12% in 2015. We aim to describe oral tongue incidence in our institution and within the Australian context.

Method: We identified 868 surgical patients with oral cavity SCC diagnosed between 1992 and 2016 from a prospectively collected institutional database. All base of tongue cancers were excluded. The most common subsite was oral tongue with 373 cases (43.0%). Age at diagnosis and oral cavity subsites were analyzed. Australia oral tongue incidence data was accessed from the Australian Institute of Health and Welfare (AIHW) website¹.

Results: AIHW data Oral tongue cancer incidences in Australia have been steadily increasing in recent decades. Australia-wide, two hundred and fifty-one new diagnoses were made in 1990 compared to 455 new diagnoses in 2010¹. Institutional cohort Overall oral cavity cancer increased 188% between 1992 and 2016. Oral tongue cancer incidence increased 236% over the same period. The median age of the cohort was 64.3 years old (range: 18.2 – 100.7 years old), comprised of 60.8% males and 39.2% females. Prior to 2011, 5.6% were aged under 40 years old at diagnosis, in contrast to 11.5% of new oral tongue diagnosis between 2012 and 2016.

Conclusion: Despite the well-documented decrease in tobacco smoking rates since the 1990's, Australia's oral cavity cancer incidence appears to be increasing. The most marked increases are within the oral tongue subsite and in younger patients. We encourage other centers to review their oral cavity cancer data in recent years. Future research should be directed towards identifying a potential causative agent.

¹ <http://www.aihw.gov.au/acim-books/>

"C02 Other and unspecified parts of tongue"

ASSESSMENT AND MANAGEMENT OF DYSPHAGIA FOLLOWING TOTAL LARYNGECTOMY AND PHARYNGOLARYNGECTOMY WITHIN AUSTRALIA – A SURVEY OF SPEECH PATHOLOGY PRACTICE PATTERNS

Ms Sarah Wilson, Dr Clare Burns, Dr Bena Cartmill

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Purpose: Dysphagia is a common and significant consequence of total laryngectomy and pharyngolaryngectomy (TL/PL) surgeries. There is currently no standardized approach to assessment and management of dysphagia in this population within Australia. This study aimed to investigate clinical practices of Australian speech pathologists working with patients following TL/PL.

Methodology: An internet-based survey was disseminated to Speech Pathologists registered with a web-based head and neck cancer special interest group. The questionnaire collected information on demographics, healthcare settings, clinical services, clinical and instrumental assessment processes and dysphagia management following TL/PL. Responses were analysed descriptively.

Results: A total of 49 survey responses were received with 35 providing complete demographics, setting, clinical services and clinical assessment data. Instrumental assessment and rehabilitation questions were completed by 27 respondents. Distribution of metropolitan and regional facilities was even, with metropolitan staff reporting greater laryngectomy specific experience. The timing and frequency of clinical review was variable, with main components including patient interview (100%); oromotor assessment (74%); food and fluid trials (94%) and infrequent use of patient-reported outcomes (19%). Clinical assessment relied on a combination of patient-reported symptoms with some clinical measures. Half of respondents reported facility access to videofluoroscopic swallow study (VFSS) alone, with 39% indicating access to both VFSS and Fiberoptic Endoscopic Evaluation of Swallowing (FEES). However no standard assessment protocol was reported for these instrumental studies. Swallow rehabilitation programs were largely prescribed based on clinical (73%) or instrumental assessment (62%).

Conclusion: Survey results indicate variable Australian practice patterns for dysphagia assessment and management in patients following TL/PL. While current clinical practice guidelines support evidence based laryngectomy services, further research will assist in standardizing care pathways for dysphagia in this population.



Poster Presentation Abstracts (cont'd)

SALVAGE LARYNGECTOMY – FINANCIAL BURDEN OF DISEASE. RETROSPECTIVE ANALYSIS IN A REGIONAL HEAD AND NECK CENTRE IN AUSTRALIA

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Purpose: With perhaps a quarter of patients needing surgery subsequent to an organ preservation strategy in laryngeal cancer, we proposed to describe the costs associated with salvage laryngectomy. Given that similar survival rates and questionable quality of life differences between surgical and organ preservation protocols exist, the costs of therapy may offer additional insight into clinical decision making in the primary setting, or, at the very least educate us to the actual costs of salvage surgery.

Methodology: A retrospective cohort study was designed to describe the burden of disease of patients who had salvage laryngectomy at the Wollongong Hospital from January 2008 to June 2016. Total hospital length of stay, HDU length of stay, number of return to theatre, salivary fistula rate, carotid artery blowout and survival since surgery were analysed in this group.

Results: Our preliminary result identified 42 patients and 23 of those had salvage surgery locally. The average length of hospital stay was 45 days. All patients required minimal 1 day of HDU stay. Overall average HDU stay was 5.5 days, return to theatre was 1.9 times, salivary fistula rate was 34.8% for both free flap and local flap. One patient had carotid blow out (4.3%) Twenty-five patients were deceased with average survival of 797 days post-surgery.

Conclusions: Failure of organ preservation, whether due to recurrent disease or a dysfunctional larynx, is an outcome with great costs in terms of morbidity and mortality to the patient, and in financial terms to the community. Our data serves to highlight the financial costs in the Australian setting and will help with budgeting and resourcing units that manage these patients.

Fogarty, B. J., Khan, K., Ashall, G., & Leonard, A. G. (1999). Complications of long operations: a prospective study of morbidity associated with prolonged operative time (> 6 h). *Br J Plast Surg*, 52(1), 33-36. doi:10.1054/bjps.1998.3019 Muller, R., Paneff, J., Kollner, V., & Koch, R. (2001). Quality of life of patients with laryngeal carcinoma: a post-treatment study. *Eur Arch Otorhinolaryngol*, 258(6), 276-280.

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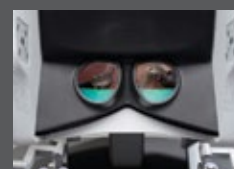
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