

# ANZ JOURNAL OF SURGERY



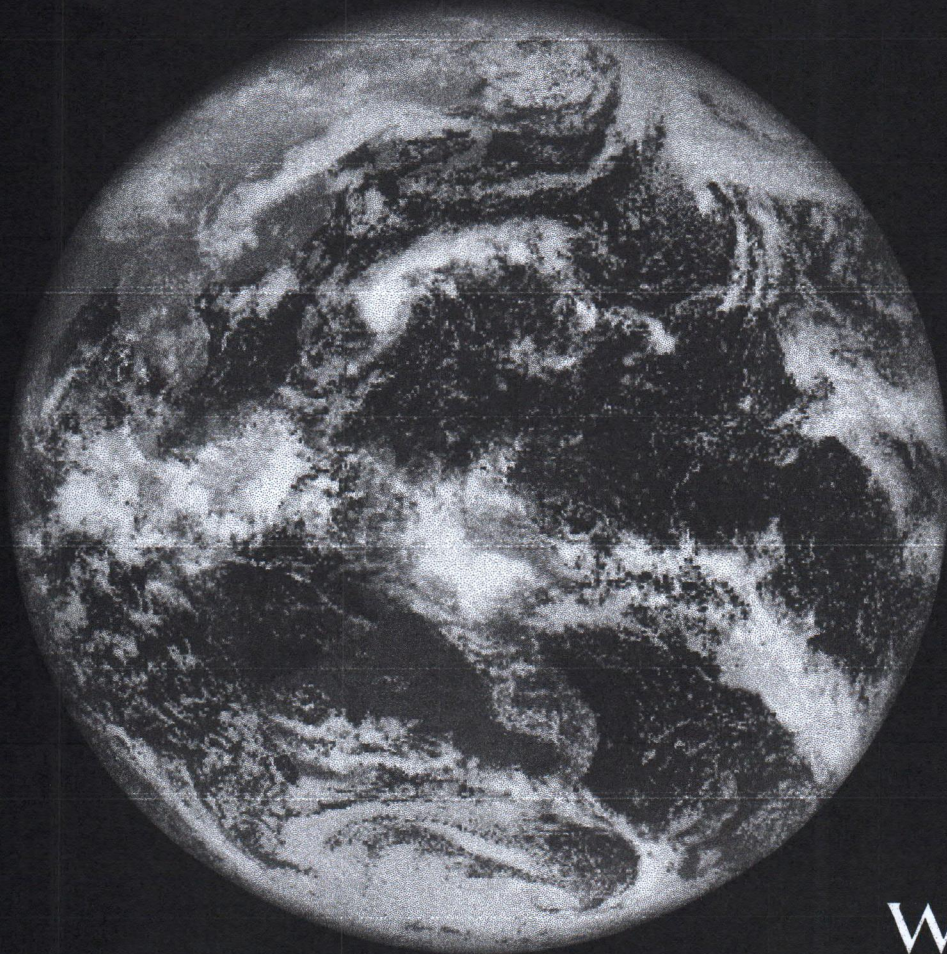
The Royal Australasian  
College of Surgeons

Volume 84 Supplement 1  
May 2014

ISSN 1445-1433  
ISSN 1445-2197

[ANZJSurg.com](http://ANZJSurg.com)

RACS Annual Scientific Congress and  
ANZCA Annual Scientific Meeting  
Singapore  
5-9 May 2014



WILEY

**EDITORIAL BOARD****Editor-in-Chief**

JP Harris (john.harris@sydney.edu.au)

**Senior Editors**IDS Civil (New Zealand)  
J Fletcher (New South Wales)  
I Gough (Queensland)C Platell (Western Australia)  
A van Rij (New Zealand)JA Smith (Victoria)  
D Watson (South Australia)**Speciality Editors**R Atkinson (Military Surgery)  
Z Balogh (Trauma)  
SW Beasley (Paediatric Surgery)  
PF Burke (Surgical History)  
PFM Choong (Orthopaedic Surgery)  
M Cohen (Pain Medicine)  
WG Cole (Paediatric Orthopaedic Surgery)  
G Fabinyi (Neurosurgery)  
M Fink (Transplantation)  
R Fitridge (Vascular Surgery)R Gallagher (Otolaryngology Head & Neck Surgery)  
V GebSKI (Biostatistics and Clinical Trials)  
JC Graham (Rural Surgery)  
J Hamdorf (Surgical Education)  
AG Hill (Perioperative Care)  
P Holt (Surgical Outcomes)  
J Koea (Hepatopancreaticobiliary Surgery)  
D Lubowski (Colorectal Surgery)  
G Maddern (Quality)  
D Moses (Images for Surgeons)A Penington (Plastic & Reconstructive Surgery)  
G Ramsey-Stewart (Surgical Anatomy)  
J Serpell (Endocrine Surgery)  
M Smithers (Upper Gut)  
A Spillane (Breast Surgery)  
J Thompson (Surgical Oncology)  
J Tomlinson (Social Media)  
P Truskett (General Surgery)  
J Vivian (Urology)  
JA Windsor (Pancreas)  
D Winlaw (Cardiothoracic Surgery)**Editors Emeriti**M Archdall  
RC Bennett  
GJA ClunieM Earlam  
I Faris  
JC Hall  
J LudbrookJP Richardson  
KF Russell  
RJS Thomas**Eminent Advisory Group**MF Brennan (ANZ/USA)  
PH Chapuis (Australia)  
JM Church (ANZ/USA)YC Har (Malaysia)  
WY Lau (Hong Kong)  
PJ Morris (ANZ/UK)T Ramanujam (Malaysia)  
BP Waxman (Australia)  
WI Wei (Hong Kong)**Aims and Scope**

ANZ Journal of Surgery is published by Wiley Publishing Asia Pty Ltd on behalf of the Royal Australasian College of Surgeons to provide a medium for the publication of peer-reviewed original contributions related to clinical practice and/or research in all fields of surgery and related disciplines. It also provides a programme of continuing education for surgeons. All articles are peer reviewed by at least two researchers expert in the field of the submitted paper.

**Abstracting and Indexing Services**

This Journal is indexed by *Abstracts on Hygiene and Communicable Diseases, Academic Search (EBSCO), APAIS, Australian Medical Index, Biomedical Reference (EBSCO), CancerLIT, Current Contents/Clinical Medicine, Diseases of the Colon and Rectum, ENT News, EMBASE/Excerpta Medica, Health Source Nursing/Academic (EBSCO), Ingenta (previously Uncover), INIS Atomindex (Online Edition) (International Nuclear Information System), InPharma Weekly, Journals @ Ovid, Medical Documentation Service, MEDLINE, Nutrition Abstracts and Reviews, OncoDisc, Pharmacoeconomics and Outcomes News, ProQuest (previously University Microfilms), Reactions Weekly, Research Alert, Rural Development Abstracts, Science Citation Index, SCOPUS and Tropical Diseases Bulletin.*

**Address for Editorial Correspondence**

The Editor, ANZ Journal of Surgery, 155 Cremorne Street, Richmond, Victoria 3121, Australia (tel: (+61) 3 9274 3100; fax: (+61) 3 9274 3101; email: ans.ed@wiley.com)

Wiley's Corporate Citizenship initiative seeks to address the environmental, social, economic, and ethical challenges faced in our business and which are important to our diverse stakeholder groups. Since launching the initiative, we have focused on sharing our content with those in need, enhancing community philanthropy, reducing our carbon impact, creating global guidelines and best practices for paper use, establishing a vendor code of ethics, and engaging our colleagues and other stakeholders in our efforts. Follow our progress at [www.wiley.com/go/citizenship](http://www.wiley.com/go/citizenship)

For submission instructions, subscription and all other information visit <http://wileyonlinelibrary.com/journal/ans>

ISSN 1445-1433 (Print) ISSN 1445-2197 (Online)

**Disclaimer**

The Publisher, Royal Australasian College of Surgeons and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher, Royal Australasian College of Surgeons and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher, Royal Australasian College of Surgeons and Editors of the products advertised.

**Copyright © 2014 Royal Australasian College of Surgeons**

This journal is available online at Wiley Online Library. Visit [wileyonlinelibrary.com](http://wileyonlinelibrary.com) to search the articles and register for table of contents email alerts.

Access to this journal is available free online within institutions in the developing world through the HINARI initiative with the WHO. For information visit [www.healthinternetwork.org](http://www.healthinternetwork.org)



ANZJSurg.com

The Royal Australasian  
College of Surgeons

# Contents

Bariatric Surgery Program Abstracts .....	1
Breast Surgery Program Abstracts .....	7
Burn Surgery Program Abstracts .....	18
Cardiothoracic Surgery Program Abstracts .....	26
Colorectal Surgery Program Abstracts .....	30
Craniofacial Surgery Program Abstracts .....	53
Endocrine Surgery Program Abstracts .....	57
General Surgery Program Abstracts .....	64
Hand Surgery Program Abstracts .....	84
Head and Neck Surgery Program Abstracts .....	90
HPB Surgery Program Abstracts .....	97
Indigenous Health Program Abstracts .....	106
International Forum Program Abstracts .....	107
Medico-legal Program Abstracts .....	110
Military Surgery Program Abstracts .....	112
Neurosurgery Program Abstracts .....	114
Orthopaedic Surgery Program Abstracts .....	122
Paediatric Surgery Program Abstracts .....	128
Pain Medicine (RACS) Program Abstracts .....	138
Plastic & Reconstructive Surgery Program Abstracts .....	140
Quality Assurance & Audit in Surgical Practice Program Abstracts .....	166
Rural Surgery Program Abstracts .....	170
Surgical Education Program Abstracts .....	175
Surgical History Program Abstracts .....	183
Surgical Oncology Program Abstracts .....	189
Trainees Association Program Abstracts .....	195
Transplantation Surgery Program Abstracts .....	196
Trauma Surgery Program Abstracts .....	198
Upper GI Surgery Program Abstracts .....	206
Vascular Surgery Program Abstracts .....	213
Author Index .....	223

spread but this review suggests that patient's with a tumour >5mm do have an increased likelihood of local spread & worsened prognosis.

### HN10P

#### A CASE OF MISTAKEN IDENTITY: CAROTID BODY TUMOUR?

RACHEL CARE AND HANS STEGEHUIS

Palmerston North Hospital, Manuwatu, New Zealand

**Introduction:** Carotid body tumours are paraganglionomas of the carotid body. 70% of extra adrenal paraganglionomas occur in the head and neck and carotid body tumours account for over 65% of these. However paraganglionomas only represent around 0.6% of head and neck neoplasms. They are associated with classic radiological and pathological features including the 'Lyre sign' and 'zellballen' organoid growth pattern.

**Case report:** We present a case of a 74 year old man presenting with a neck mass and shortness of breath. Radiology revealed a mass between the carotid and parotid space, multiple intrapulmonary and extra pleural masses with large right pleural effusion. Aspiration of pleural effusion revealed no malignant cells. Fine needle aspirate (FNA) of neck was mass consistent with carotid body tumour. A later biopsy of the pleural mass was consistent with primitive neuroectodermal tumour (PNET). Retrospective review of the neck FNA was consistent with metastatic PNET.

**Discussion:** Carotid body tumours are difficult to diagnose clinically, frequently mistaken for more common neck masses. Biopsy is not generally recommended due to the highly vascular nature of the tumour and therefore radiology is primarily relied upon for diagnosis. This case is unusual in that pathology supported diagnosis of carotid body tumour and radiology did not. Eventually an altogether unsuspected diagnosis of PNET was reached.

**Conclusions:** While the pathologist always has the last word, the first last word and the last last word may not always be the same.

#### Reference

1. Naughton J, Morley E, Chan D, Fong Y, Bosanquet D, Lewis M. Carotid body tumours. *Br. J. Hosp. Med.* 2011; 72(10): 559-64.

### HN11P

#### AN UNUSUAL CAUSE OF ODYNOPHAGIA

CASSIE WANG, NEIL THOMSON AND MICHAEL LANAN

Gosford Hospital, New South Wales

**Purpose:** We present a rare case of partial tear of the sternothyroid muscle, which first presented with odynophagia as the chief complaint.

**Methodology:** A case report detailing a gentleman who presented with odynophagia was described, including imaging findings of partial tear of the sternothyroid muscle. A Medline literature search was conducted to look for previous case report of spontaneous tearing of neck muscles leading to dysphagia or odynophagia.

**Results:** 37 year-old gentleman presented with persistent odynophagia, associated with mild discomfort on neck movements and globus pharyngeus. Initial investigations including X-ray, flexible nasendoscopy and CT were unremarkable. A MRI study subsequently demonstrated soft tissue oedema consistent with partial tearing of the right sternothyroid muscle.

**Conclusion:** To our knowledge this is the first report of spontaneous sternothyroid muscle tear causing odynophagia. We suggest that clinicians include muscle damage as part of their differential diagnosis, and that MRI could be a useful investigation in selected cases.

### HN12P

#### AUDIT OF COMPLICATION RATES IN PRE-PLATING OF MANDIBULAR OSTEOTOMIES

SEPEHR SEYED LAJEVARDI, MARK RAHMAN AND QUAN NGO

Liverpool Hospital, New South Wales

**Introduction:** Mandibular osteotomy (mandibulotomy) is widely used for access in operations of the oral cavity and the oropharynx. A commonly used technique is to mould the plate, fix to the mandible and remove it before

performing the osteotomy. Once the operation is finished the pre-moulded screw-holes and pre-moulded plate are used to reconstruct the mandible. The other technique is to use compression plates to reconstruct the mandible at the end of the operation. Review of the literature did not reveal any comparative study between such techniques. This study aimed to retrospectively compare the common complication rates of mucosal wound dehiscence and salivary leak in these two techniques.

**Methods:** Retrospective review of all head and neck procedures at Liverpool pool hospital from 1st January 2010 to 31st December 2013.

**Results:** Total of 1091 head and neck cases reviewed. Nine cases identified requiring mandibulotomy. All cases were for access to oral/pharyngeal tumours and required free tissue transfer reconstruction. Five cases were pre-plated and four had compression plates. Three out of five pre-plated cases developed wound dehiscence and salivary leakage post op and required return to theatre for repair. None of the patients in the compression plate group developed such complications. The difference was not statistically significant.

**Conclusion:** The audit of results for this unit showed all patients with pre-mandibulotomy wound dehiscence and salivary leak had pre-plating of the mandible. However, given the small number of cases in this series the results were found not to be statistically significant. A randomized control trial will be required to further establish the difference between these two techniques.

### HN13P

#### BONY UNION IN FREE FLAP MANDIBLE RECONSTRUCTION

SAAM SAEED TOURANI, ALEX MURRAY, STEVEN CHAN AND DAMIEN GRINSELL

Royal Melbourne and St Vincent Hospital, Victoria

**Purpose:** Bony union following free flap mandible reconstruction is fundamental to successful dental rehabilitation with osseointegrated implants. Non-union after vascularized bone graft of mandible has been variously reported up to 7%. However in our local experience anecdotal reports from dental rehabilitation facilities suggested significantly higher rate of non-union over the last two decades.

**Methodology:** A retrospective review was performed at two centres on the medical records of consecutive patients undergoing free flap mandible reconstruction between 2005 and 2012.

**Results:** Fifty-four patients with a total of 113 osteosynthesis sites were included in this study. Resection of oral squamous cell carcinoma was the cause of mandible defect in 60% of the patients. The donor site was ilium in 15 patients (22 sites) and fibula in 39 patients (91 sites). For bony fixations reconstruction plates were used in 27 sites, mini-plates in 69 sites, interosseous wires in 2 sites, K-wires in 3 sites, and a combination of methods in 12 sites. Bony union at 6-month follow-up was seen in 85% of the sites (96/113). There was no significant difference in the union rate based on the donor site ( $\chi^2 = 0.29, p = 0.59$ ) or fixation method (reconstruction plate versus mini-plate,  $\chi^2 = 2.03, p = 0.15$ ).

**Conclusions:** In our experience non-union is more frequent than stated in the previous series. This negatively impacts dental rehabilitation for patients undergoing free flap mandible reconstruction. More cases are required to assess the effect of using inter-osseous wires in the union rate.

### HN14P

#### CLINICO-PATHOLOGICAL CHARACTERISTICS OF SINONASAL MALIGNANCIES: A STUDY FROM A TERTIARY CARE HOSPITAL OF INDONESIA

SUKRI RAHMAN AND ADE CHANDRA

Faculty of Medicine Andalas University, West Sumatra, Indonesia

**Purpose:** The diagnosis of sinonasal malignancies is challenging. Most patients with sinonasal malignancies have advanced stage at presentation. Recognizing the common symptoms is important. The purpose of this study was to describe the clinical presentation and pathological characteristics of sinonasal malignancies in a tertiary care hospital in West Sumatra Indonesia.

**Methodology:** We reviewed all cases of sinonasal malignancies presented to the Department of Otolaryngology Head and Neck Surgery Dr. M. Djamil Hospital, Padang, Indonesia from January 2010 to December 2013.

**Results:** A total number of 15 patients with sinonasal malignancy presented during the study period. There were 8 males and 7 females (ratio 1.1:1) with a median age of 44 year at diagnosis. All of the patients presented with multiple symptoms, epistaxis is the most common presenting complaint (93.3%) followed by nasal obstruction (80.0%), facial swelling (46.6%), eye-related symptoms (40.0%), ear-related symptoms (33.3%) and headache (26.6%). The most common defined localization was maxillary sinus (40.0%), but due to advanced stage at presentation in 46.6% of cases, the primary tumour site was difficult to determined. Histologically, squamous cell carcinoma was the most common (53.3%) followed by adenocarcinoma (13.3%) and undifferentiated carcinoma (13.3%). Most patients present with stage IV (60.0%) followed by stage III (26.6%), stage II (13.3%) and no stage I.

**Conclusion:** All of the patients with sinonasal malignancies presented with multiple symptoms, which epistaxis is the most common presenting complaint, squamous cell carcinoma was the most common histopathology.

**Key words:** clinico-pathological, Indonesia; sinonasal malignancies, west Sumatra.

#### HN15P COMBINED LARYNGOPYOCELE – A RARE NECK MASS AND AN UNCOMMON EXCISION

SHRAVYA KARNA, PATRICK GUINEY AND SAM FLATMAN

*Box Hill Hospital, Victoria*

Laryngocele is an anomalous diverticulum arising from the laryngeal sacculle within the ventricle of Morgagni. They consist of a membranous sac located between the false vocal cord and thyroid cartilage. Typically laryngoceles are air filled, due to communication with the larynx. However, it may also be filled with mucus, and is then called a laryngomucocele. If this becomes infected, a laryngopyocele is formed. Laryngoceles are rare pathologies, while laryngopyoceles are still rarer with only 40 cases having been reported in English literature. Management of laryngoceles are dependent on the location of the sac. Typically an external approach with the use of a laryngofissure is employed in surgical excision. Though complications are rare, trauma to the mucosa and neurovascular structures of the endolarynx is still plausible. In this case, we describe an 80 year old gentlemen with a subclinical laryngopyocele diagnosed on clinical findings and radiological evaluation. Computed tomography of the neck demonstrated a lobulated hypodense structure superficial to the thyroid cartilage extending through the thyrohyoid membrane with enhancing margins and localisations. Surgical excision was the curative management. In this case, the laryngopyocele was excised by an external approach, whereby a laryngofissure was avoided. Consequently, there was reduced trauma to the endolarynx and decreased risk of damage to nearby neurovascular structures.

#### HN16P FRONTAL BONE OSTEOMYELITIS WITH LOCAL ORBITAL INVOLVEMENT

DAVID SPARKS, CRAIG WINTER, STUART BADE AND ANTHONY LYNHAM

*Royal Brisbane Hospital, Queensland*

Frontal bone osteomyelitis with post-septal involvement is a rare yet important consequence of sinusitis. It results from infection of the frontal bone with inflammatory exudate eroding through the cortex leading to bony necrosis, periosteal rupture and local extension. Local spread through the orbital components of the frontal bone can lead to post-septal involvement, a rare occurrence with important clinicopathological and reconstructive implications.

A 60 year-old female with type-2 diabetes mellitus presented to our department in July 2012 with a diagnosis of frontal bone osteomyelitis on the background of suspected acute or chronic sinusitis. Multi-directional diplopia, periorbital oedema of the left eye along with adjacent frontal sinus tenderness was observed on examination. Preoperative CT scan of the head revealed frontal bone osteomyelitis with a 31 x 48mm bony sequestrum along with erosion of the frontal sinus roof. MRI ruled out any associated periosteal abscess formation (Pott's puffy tumour) or subdural empyema. Stereotactic bone biopsy with DNA extraction analysis revealed *parabacteroides merdae* as the responsible organism.

A bifrontal craniotomy with frontal air sinus cranialization was achieved alongside resection of the left orbital bar, lateral orbital roof and lateral part

of the greater wing of the sphenoid bone. A fascia-only flap raised from the left anterolateral thigh was transplanted to cover the anterior fossa floor defect and anastomosed to the frontal branch of the left superficial temporal artery. The patient had an unremarkable postoperative course.

This case report presents a rare disease entity alongside a discussion of our management and a review of the literature.

#### HN17P INCIDENTAL INTERNAL ACOUSTIC MEATUS LIPOMA IN A 68-YEAR-OLD MALE

NISHANT HEMANTH DAVIDOSS, JENNIFER FONG HA, ZIYAD KHALEEL AND DAVID HALL

*Royal Perth Hospital, Western Australia*

We present a case of a 68-year-old male who initially presented with asymmetric sensorineural hearing loss and tinnitus which gradually worsened over a few years along with new-onset facial paraesthesia. He was subsequently found to have an internal acoustic meatus lipoma detected incidentally on MRI. We discuss the epidemiology, pathogenesis, radiological diagnosis and management of these rare entities.

#### HN18P LEMIERRE'S SYNDROME: ALARMING COMPLICATIONS FOLLOWING A SORE THROAT

JUNE HUANG

*Hornsby Ku-Ring-Gai Hospital, New South Wales*

SM, a 31 year-old female with no co-morbidities, presented to a district hospital with a week's history of worsening odynophagia and temperatures, and subsequently developed unilateral neck swelling, right-sided chest pain and shortness of breath.

She had initially been diagnosed with tonsillitis, and was treated with intravenous antibiotics and steroids in the emergency department.

She appeared to improve symptomatically, but blood cultures were positive for *Fusobacterium necroformis*, and her chest X-ray revealed lesions in her right lung field. An ultrasound of her neck swelling also confirmed suspicions of a thrombus in her internal jugular vein, and she was transferred to a tertiary facility for management under the head and neck team.

Her progress was complicated by a pleural effusion requiring repeated drainage, with a persistent loculated effusion, but she had no further embolic sequelae. She was discharged after 3 weeks with ongoing follow-up with the haematology, respiratory and infectious diseases teams.

This case is a classic example of Lemierre's syndrome, a rare syndrome with incidence quoted in the literature as 3.6 per million, which describes thrombophlebitis of the internal jugular vein following a primary anaerobic bacterial oropharyngeal infection, usually an innocuous-sounding pharyngitis or tonsillitis, and subsequent septic emboli, which may be potentially life-threatening. Surgical intervention may be warranted for management of complications, and a high index of suspicion is required for early recognition and appropriate treatment, with multi-disciplinary involvement.

#### HN19P MICROVASCULAR FREE TISSUE TRANSFER FOR RECONSTRUCTION OF HEAD AND NECK TISSUE DEFECTS – SRI LANKAN EXPERIENCES

H. A. R. P. SIRIWARDANA, T. S. BENARAGAMA AND DULIP PERERA

*National Hospital of Sri Lanka, Colombo 10, Sri Lanka*

**Purpose:** Complex tissue defects following trauma and surgical resections of the head and neck malignancies presents a major reconstructive challenge and significant functional and aesthetic impairment. Often those are beyond the reconstruction with available local and regional tissues, hence microvascular free tissue transfer provides advanced surgical options for those tissue defects.

**Methodology:** A retrospective analysis of 15 patients that underwent microvascular reconstruction of head and neck region from January 2008 to