Health Matters



Your patients, our focus Issue 17 – Autumn 2017

Middle Ear and Mastoid Surgery



Area: Otorhinolaryngology (ENT) Article written by: Mr Stephen C. Toynton,

Royston Hospital

Specialist Otologist, ph (06) 873 1162

An Overview of Current Middle Ear and Mastoid Surgery

The impact that ear problems have on an individual's quality of life is often disregarded. A child's behavioural characteristics, and subsequent adult personality, may be adversely affected as a result of long-standing, relatively mild, hearing losses.

In adults, quality of life, employment, and cognitive function may be significantly impaired, particularly in the elderly. Single-sided deafness causes disproportionate difficulties, particularly when hearing in background noise.

Continued on page 2

Dr Ben Griffiths, Mr Ryan Johnstone, Dr Sinead Donnelly, Dr Sarah Usmar, Vicki Robinson, Georgia Wakefield Bowen: Dr Nicholas Kennedy,

> Mr Jonathon Richards Contact Details > 20

What's inside

Acurity GP Conference

Royston Quality Awards > 16

Beyond the Prescription Pad -

Managing Persistent Pain? > 17

What are the Options for

New Consultants > 18–19 Wakefield: Dr Peter Abels.

Programme > 7–10

and Mastoid Surgery > 1–4 Message from Acurity > 2 Hyperhidrosis Update > 5

An Overview of Current Middle Ear

Upcoming CME Meetings 2017 > 6

Pathology of the Anterior Mediastinum

Thymomas & Myasthenia Gravis > 11–16

Hyperhidrosis Update Page 5 > Pathology of the Anterior Mediastinum – Thymomas and Myasthenia Gravis Page 11 >



Book online

WAKEFIELD

Acurity GP Conference Programme inside Page 7 >



Message from Acurity Health

Chief Operating Officer's Message Paul Quayle, Chief Operating Officer, ph (04) 920 0146

Connect



Welcome to Edition 17 of Health Matters, our first edition for 2017. Inside you will find information about the upcoming Acurity GP Conference: Connect 2017 and how to register, along with a selection of interesting educational articles from

our specialists. We also have a number of new consultants to introduce to you who have recently joined an Acurity hospital.

GP Conference 2017

Presented by Wakefield, Bowen and Royston Hospitals in association with the Department of Primary Health Care and General Practice, University of Otago, Wellington, this conference,

now in its 19th year, promises to be our best yet. The programme is packed with new and interesting topics including our popular quick fire "lightning"

talks. The guest speaker this year is Nigel Latta who will provide an insightful and entertaining look into contemporary issues facing New Zealand communities. He will be available to speak to you personally at the Networking Function, held at the end of the first day where we will also be announcing the winner of the World of Wearable Art tickets.

Registrations have now opened for Connect 2017: Acurity GP Conference, please take the time to visit the website and view the exciting programme we have planned over the course of two days at Te Papa on Friday 19th and Saturday 20th May.

www.acurity.co.nz/connect

Oncology

Oncology NZ is a joint venture between Evolution Healthcare and the Icon Group and will be the first private oncology service in central New Zealand. This new service will be based at Bowen Hospital, Crofton

Downs, to ensure it is easily accessible by all. It is our intent that this new service will be complimentary to that provided in the public sector by Capital & Coast DHB. The new centre includes a reception area for families, four private consultation rooms, a treatment room and six treatment bays positioned for maximum sunlight with views over the native Otari bush.

Happy reading...

Paul Quayle Chief Operating Officer Acurity Health Group Ltd



An Overview Ear & Mastoid

Continued from page 1



Otitis Media with Effusion (OME, glue ear) (Figure 1)

About 75% of children have suffered from at least one episode of OME before two years of age, most spontaneously resolving. The diagnosis is made on the basis of reliable otoscopy, a flat (type B) tympanogram and a conductive hearing loss, typically between 20-30dBHL.

Good quality trials have shown that the effects of not treating are relatively minor and mainly relate to personality and behavioural outcomes, rather than IQ, language or literacy, provided that the condition does resolve. About 50% of affected children spontaneously recover in the three months following their initial consultation, as do many of the remainder subsequently. Those who fail to do so, are at risk of developing measurable deficits and chronic otitis media. Screening programmes help to identify patients with OME, surgical intervention with grommets (ventilation tubes) being reserved for those who do not resolve after a minimum of three months of 'watchful waiting'.

Results of Eustachian tube balloon dilation are encouraging but the results of controlled trials are awaited.

of Current Middle Surgery









Chronic Otitis Media (Figure 2)

Maori and Pacific Islanders are about twice as likely as **European New Zealanders** to suffer from chronic tympanomastoid disease. Those with recurrent or persistent aural discharge should be examined to ensure that cholesteatoma is not present in the pars flaccida (attic) region and/or the postero-superior segment of the ear drum. If any wax or skin debris obscures a clear view of these areas, then it should be removed. A referral to a suitably gualified ear nurse may be necessary. Simple perforations in children should be repaired once acute episode of infection with otorrhoea, associated with upper respiratory infections, stop; usually between six and eight years of age. No surgery is indicated for symptom free adults. Many, however, do suffer from embarrassingly smelly infections, hearing loss and discomfort. This may result in time off work, particularly for food handlers, health care workers and professional divers. In the past, older patients were advised against surgery, however, the presence of a persistent discharge, and the inability to wear a conventional hearing aid, are

strong indications for surgery. Successful drum closure with a resulting dry ear, enabling an aid may be worn, should have a success rate of at least 80% and be of low risk.

Cholesteatoma (Figure 3)

This is a condition where the skin of the tympanic membrane cannot migrate out of the ear canal, due to it becoming caught in a retraction pocket in the pars flaccida (attic region), or posterior segment, of the drum. It is a locally destructive process that erodes bone. The most common problems are of chronic infection (which accelerates the bone destruction) and erosion of the ossicular chain resulting in a conductive deafness. Untreated, balance problems and sensorineural deafness from labyrinthine erosion may occur. Rarer complications include lateral sinus thrombosis, facial nerve palsy, meningitis, extradural and intracerebral abscesses.

The default treatment is surgery, although comorbidities or patient preference may preclude this. All but those with very limited disease should have a high definition CT scan. This not only provides an anatomical 'road map' but also assesses disease extent and areas of erosion. This enables appropriate operative planning and also enables the degree of risk to be assessed for those who have elected not to have surgery.

Surgical strategies have evolved from a disease orientated approach to one of functional outcome. The realisation that after surgical treatment, regardless of strategy, serious complications from the condition itself are rare, quality of life has become a higher priority. Eradicating cholesteatoma with anatomically destructive open cavity procedures (radical/modified radical mastoidectomy) was the usual approach. Good results may be obtained if the resulting cavity is small and smooth with an adequate meatoplasty. In many ears, however, anatomy and the extent of erosion dictate larger, irregular cavities. Previously excellent ones may deteriorate with time as muscle and fascial flaps atrophy and obliteration materials resorb. Cavity procedures also provide fewer options for optimum hearing management. Alternative strategies rely on preserving the ear canal wall and excising retraction pockets using cartilage grafts

to repair and reinforce some, or all, of the drum. Minimum dissection of non-diseased bone, and preservation of the ossicles in their original positions, is more likely to be achieved with the additional use of otoendoscopes and lasers. Using cavity free tympanoplasty techniques, unlike open cavity procedures, it is not possible to easily identify residual or recurrent cholesteatoma (3 - 20%). Therefore a second procedure, about a year after the first, is often performed to check that the ear is cholesteatoma free. Invasive "second look" procedures are being replaced by diffusion weighted MRI scanning. (DW Non EPI MRI). Often two are carried out at 18 month intervals following the definitive surgery. Equivocal scans may be verified by endoscopic, minimally invasive trans-mastoid procedures via a simple one centimetre post-auricular incision.

Continued on page 4

3.

An Overview of Current Middle Ear and Mastoid Surgery

Continued from page 3

Mr Stephen C. Toynton





Old Mastoid Cavities (Figure 4)

Historic troublesome cavities are common. Whilst these may be kept problem free by regular cleaning, and occasional treatment with appropriate ear drops, the health care costs are huge. Often patients have attended 70 or more specialist or ear nurse appointments. Revision surgery has been shown to significantly decrease the health care load and to improve patients' quality of life. Rebuilding the ear canal wall with cartilage, with or without obliterating the cavity, may give excellent results creating a dry, watertight, aidable ear in most patients.

Hearing Reconstruction (Figure 5)

Surgical results have improved with the use of new biocompatible, finely adjustable, prostheses, and grafting techniques. Instead of maintaining the anatomical position of the malleus it is possible to separate it from the drum and relocate it vertically above the stapes, where it will reattach to the overlying drum. A 'total' replacement prosthesis is then slipped onto the stapes footplate, the stem resting against the stapes, supra-structure to which it is attached by a tiny silastic band for extra stability. If there is no stapes, a minute titanium 'shoe' is positioned onto the footplate

to stabilise the prosthesis which slots into it. These technically demanding techniques are not always required and excellent results may be obtained with the use of new grip/clip based 'partial' prostheses applied directly to the stapes head.

Otosclerosis and Stapedectomy (Figure 6)

The surgical techniques involved in otosclerosis treatment are exacting and should be performed by otologists that sub-specialise in this area. The conductive component of the hearing loss should be abolished to under 10dBHL in over 90% of patients treated. A conductive hearing loss in the presence of a normal tympanic membrane is usual. About 50% of patients have a positive family history and women present earlier than men, often during pregnancy.

The surgery involves removal of the superstructure of the fixed stapes and a small hole (fenestration) is created in the footplate. The base of the prosthesis, shaped like a shepherd's crook, is placed into the hole and the hook crimped onto the incus. A perfect crimp, with exact tension and position is required to obtain the best results. Recent new prostheses have helped achieve this, being made of 'SMART' alloys. The open hook is positioned and, when heated with a laser,

contracts, enveloping the incus at the correct tension. The majority of the risk of a dead ear occurs during the removal of the superstructure and making the fenestration, or in revision surgery when removing adhesions surrounding the old prosthesis and footplate. These manoeuvres are made safer by the use of otological lasers, which are recommended for all cases, but are mandatory for revisions.



Implantable Aids (Figure 7)

For those who cannot have restorative surgery or use conventional aids for reasons such as unresolving ear infections, acquired stenosis and congenital anatomical anomalies (eg. microtia), then alternatives exist. Bypassing the conductive system by directly stimulating the cochlear by bone transmission, is often very successful. The bone-anchored aid (BAHA[™]) has been available for many years and more recent designs have helped reduce the problems with infection around the transcutaneous abutment. Recent developments, largely acquired from cochlear implant technology, have enabled bone conduction via transcutaneous stimulation. A metal plate, or bone vibrator, is implanted directly into the temporal bone, or elsewhere on the skull. An external magnetic coil transmits through the skin causing the implant to vibrate. These devices are replacing the traditional BAHA[™] and are also available as upgrades to current BAHA[™] systems.

Cochlear implants are a well established treatment for profound sensorineural hearing loss, the current New Zealand centres being in Auckland and Christchurch.

Images: Figures 1-6 – Author's own, Figure 7 – Courtesy of Cochlear Ltd.

Mr Stephen Toynton offers the above surgical services at the: Royston Hospital, 325 Prospect Road, Hastings, Hawke's Bay P: (06) 873 1162 F: (06) 873 1163 E: ent@airnet.net.nz EDI: mmpmason

4 Old Mastoid Cavities

Hyperhidrosis Update



Bowen Hospital

Area: Vascular. Article written by: Mr Richard Evans, Vascular and Endovascular Surgeon, ph (04) 471 4018 ext. 3812 / 022 683 7860

Primary hyperhidrosis (excessive sweating) is a chronic autonomic disorder that starts in childhood and affects 0.5-1% of the population. While it is generally well tolerated and managed by most, there is a small group who experience significant issues, ranging from emotional and social embarrassment to functional impairment. Situations such as an inability to hold a pen at work, reluctance to engage in a handshake, drenching of clothes and malodour are common at the more troublesome end of the spectrum.

The pathophysiology of primary hyperhidrosis involves a central sudomotor efferent pathway from the cerebral cortex and hypothalamic sweat centre via sympathetic cholinergic autonomic nerves to the eccrine sweat glands in the palms, soles, axillae and to a lesser extent the scalp and face.

The workup of hyperhidrosis involves confirming the diagnosis of primary hyperhidrosis and excluding any underlying congenital, drug, endocrine, metabolic or neoplastic conditions, which may cause secondary hyperhidrosis. For most patients with primary hyperhidrosis, the diagnosis is quickly suggested by a history of symmetrical focal palmar or axillary excessive sweating in an otherwise fit and well young patient. A key pointer is a cessation of focal sweating during sleep. There may also be a positive family history.

A range of therapies is now available for primary hyperhidrosis, depending on the severity. Current mainstream therapies follow:

Drying Agents

Aluminium salts applied topically are the mainstay for low-level hyperhidrosis. They appear to have a direct inhibitory action on the sweat gland epithelium. Duration of effect is up to 48 hours. They can cause skin irritation.

Anticholinergic agents (oxybutynin) and alphaadrenergic agonists (clonidine) may be effective in some patients but the side-effect profile makes them unpopular.

Botulinum Toxins (Botox/Dysport)

These have emerged as the mainstay for those patients with more troublesome symptoms. The toxin blocks the release of acetylcholine and a number of transmitters from presynaptic vesicles. Botox/Dysport is well tolerated and simple to administer in multiple one square centimetre intradermal injections. The area to be treated is usually numbed with local anaesthetic cream one to two hours before treatment and ice packs are applied during and afterwards. Results are usually seen within the first week and will often last for an average of six months.



Palmar hyperhidrosis



hyperhidro



Axillary botulinum toxin

The complication profile is low and includes allergic reactions and the potential for intrinsic hand muscle weakness in palmar treatments. Relative contraindications include illnesses resulting in muscle weakness (ALS, Lou Gehrig's), dysphagia (Myasthenia Gravis) or respiratory compromise. Cost is around \$1,500 for the axillae and palms.

Thoracoscopic Sympathectomy

Sympathectomy was the mainstay of treatment for severe primary hyperhidrosis before the arrival of botulinum toxins. Thoracoscopic division of the sympathetic nerve in the chest as it lies over the neck of the second rib, typically gives excellent and permanent control of palmar hyperhidrosis. Division of the nerve at the level of the third and fourth ribs also gives very reliable control of axillary hyperhidrosis. Clearly, however, the invasiveness of this procedure is much less appealing but some patients

do choose a permanent solution, which avoids the repeated expense of Botox/ Dysport treatment.

Main Points

- Primary hyperhidrosis is relatively common and may cause significant emotional, social and functional issues
- Diagnosis is largely based on history but the causes of secondary hyperhidrosis need to be considered and managed appropriately
- For low-level symptoms, aluminium salts applied topically can be effective
- For higher-level symptoms, botulinum toxins (Botox/ Dysport) have become the mainstay treatment, with an average duration of six months
- Thoracoscopic sympathectomy offers a permanent solution but is significantly more invasive.

Upcoming CME Meetings – 2017



New CME sessions to be advertised soon, check www.acurity.co.nz for updates

Acurity Health Group host a variety of Continuing Medical Education (CME) sessions for GPs throughout the year.

Each session is formatted to give you an opportunity to meet consultant physicians and surgeons, receive expert feedback and discuss topics in an interactive environment.

We aim to deliver practical sessions with a primary healthcare focus and learning outcomes based on general practice diagnosis, management and investigation. Consultants are often able to provide updates on the latest research and cutting edge treatments and procedures.

Our sessions are endorsed for CME and MOPS purposes by the RNZCGP. If you would like to suggest a topic of interest or require further information please contact Sarah Malone, Business Development Manager, P: 04 920 0158,E: sarah.malone@acurity.co.nz

To register please email Persephone, pg@acurity.co.nz Visit www.acurity.co.nz for the latest educational events at Acurity.

Upcoming CME Meetings – 2017						
Date	Speaker	Speciality	Topic/Details	Venue	CME endorsed	
4 April Tuesday	Mr Nick Bedford, Mr Simon McDowell, Gynaecologists	Gynaecology	Topic to be confirmed	Kapiti Lindale Conference Centre, Kapiti Coast	2 credits	
5 April Wednesday	Dr Alex Buller, Dr John Beaumont, Opthalmologists	Ophthalmology	Eye Conditions	East Pier Hotel, Napier	2 credits	
12 April Wednesday	Mr Nigel Willis, Orthopaedic Surgeon	Orthopaedics	Foot and Ankle	Bowen Hospital, Seminar Room, Wellington	2 credits	
4 May Thursday	Mr Jonathon Richards, Orthopaedic Surgeon	Orthopaedics	Topic to be confirmed	Wakefield Hospital, Wellington	2 credits	
19 & 20 May Friday & Saturday	Acurity GP Conference: Connect 2017	For more information and to register go to www.acurity.co.nz/connect		Te Papa, Wellington	11 credits	
15 June Thursday	Dr Chris Cederwall, Gastroenterologist	Gastroenterology Topic to be confirmed		Bowen Hospital, Seminar Room, Wellington	2 credits	
July	Drs Ken Romeril, Anup George, Haematologists	Haematology	Topic to be confirmed	Wakefield Hospital, Wellington	2 credits	





Connect



Acurity Health Group are proud to be the organisers of Connect 2017 the Acurity GP Conference being held at Te Papa on 19th and 20th May 2017. Presented by Wakefield, Bowen and Royston Hospitals in association with the Department of Primary Health Care and General Practice, University of Otago, Wellington, this conference, now in its 19th year, promises to be our best yet.

"Connect" is growing from strength to strength and is gaining a reputation as the 'best little GP Conference' in New Zealand. Here's your chance to join in and discover the latest clinical updates in primary and secondary healthcare through a variety of interactive speaker presentations, case studies, lightning talks and practical demonstrations.

Discover the latest in oncology treatment and services. Explore the management of long term conditions including anxiety and depression, CVD and skin disorders. Focus on the diagnosis and treatment of age related conditions in the over fifties including joints, rehabilitation, vascular disease and urology. Examine health challenges within the community from childhood obesity to sleep disorders. Guest speaker Nigel Latta will provide an entertaining and insightful look into contemporary health issues facing New Zealand communities.

We look forward to welcoming you to Connect 2017. To register online **www.acurity.co.nz/connect** or contact Sarah Malone (04) 920 0158.

Paul Quayle, Chief Operating Officer Acurity Health Group Ltd

Sarah Malone, Business Development Manager Acurity Health Group Ltd

Conference programme enclosed.

Registrations now open: www.acurity.co.nz/connect

> Te Papa, 19 & 20 May 2017

Programme Preview

Friday 19 May 2017 – Day One

0800		Registration Desk Open							
0845	ш	Official Conference Opening Remarks		Dr Ian England, Chief Executive Acurity Health Group Ltd	5	0	Healthcare for the Ov	er Fifties	
			-	Dr Sue Pullon, Professor and Head of Department, Primary Health Care and General Practice, University	1300		Introduction to Healthcare for the Over Fifties		Dr Lynn McBain, GP, Director at Compass Health, Senior Lecturer, University of Otago, Wellington
				of Otago, Wellington	1310		Lightning Talks:		
		Health Challenges in	Our Cor	mmunities		ş	Achilles Tendinopathy: What's New?	6	Kim Tottenham Podiatrist
0905	III	Childhood Obesity: What is the Role for Primary Care?		Dr David Graham Paediatrician		Ŧ	Hand Arthritis and Dupuytrens: When is Surgery Indicated?	P	Mr Robert Rowan Orthopaedic Surgeon
0935	III	End of Life Choices and Care		Dr Angela Ballantyne Senior Lecturer in		4	Non-surgical Management of Hip Pain	Ter	Mr Fred Phillips Orthopaedic Surgeon
				of Primary Health Care and General Practice, University of Otago, Wellington		F	Neuro-dynamics: Witchcraft or Mainstream?		Dr Jake Pearson Sports and Exercise Medicine Specialist
1005	111	Overview of Health		Dr Sue Pullon		Q	Q & A		
		Challenges in our Communities	3	Professor and Head of Department, Primary Health Care and General Practice, University of Otago, Wellington	1425		Is the Diagnosis CRPS? Does it Matter? What to do Next?		Dr Jessica Povall, Physiotherapist Dr Richard Trendle,
1015		Morning Tea		<u> </u>				12	Clinical Exercise Physiologist
1050	8	Exercise: Helping Patients Get the Right Dose		Dr Ben Darlow Musculoskeletal Physiotherapy Specialist and Senior Lecturer, Department of Primary Health Care & General Practice University of	1440	8	New Imaging in Prostate Cancer – How this is Changing Diagnosis and Management Advances in		Mr Rod Studd Urologist Dr Lupe Taumoepeau
				Otago, Wellington		•	Vascular Surgery		Vascular and Endovascular Surgeon
	•	Gluten Intolerant, Leaky Gut, Candida Overgrowth, Mercury Poisoning, Pesticide Toxicity, Allergic to Food Parasites the	F	Dr Ian Wilson Gastroenterologist				(E)	Mr JK Wicks Vascular and Endovascular Surgeon
		List Goes On. How to Help Your Patients with Irritable Bowel Syndrome					Chronic Eye Diseases and How a GP Can Help	8	Dr Jesse Gale Ophthalmologist
		Sleep Disorders		Dr Andy Davies	1545		Afternoon Tea		
1155		lunch	()	Sleep Physician	1615		Communicating with Humans		Nigel Latta Guest Speaker
1155		Luilti							
					1/15		Closing Remarks for Day One		

by Acurity Health Group Ltd





Saturday 20 May 2017 – Day Two

0800		Registration Desk Open							
		Oncology Update		Management of Long Term Conditions					
					1310	3	Management of Chronic Sinus Conditions	ar.	Mr Campbell Baguley Otolaryngologist
0845	111	Topic to be advised	11-000	ICON Cancer Centre Speaker to be advised				18	e total y ligeregist
			·ICOLI			•	What's Old and Good to		Dr Ian Coutts
0850	ш	Topic to be advised		Dr Anne O'Donnell Clinical Leader			What is New?	E	Dermatologist
			181	Medical Oncology, Wellington Blood & Cancer Centre, CCDHB		•	The Current Approach to Osteoporosis	-	Dr Richard Carroll Endocrinologist
0915		Lightning Talks:			1/120		Prize draw		
	4	Latest Advances and Emerging Therapies in	60	Dr Nicola Smith Respiratory Physician	1425		Lightning Talks:		
		Lung Cancer	S	Respiratory mysician		E	Heart Function and Failure		Adj. Professor Alex Sasse
Ŧ	Radiology Oncology Update	2	Dr Joe Feltham Diagnostic and		'		F	Cardiologist	
				Interventional Radiologist		4	Hypertension in the Elderly		Dr Anil Ranchord
	۶	Current Management of Melanoma	65	Mr Chris Adams Plastic Surgeon					Cardiologist
F	-			Anna Sisley Cancer Information Nurse		۶	Percutaneous Management of Severe Aortic Stenosis	90	Dr Phillip Matsis Interventional
	۶	Whanau Support and Information Service: Filling the Gaps and	601				in Octogenerians	E	Cardiologist
						Q	Q & A		
		Meeting Unmet Needs			1515	Ħ	What Do I Do Now?	63	Dr Giles Newton-Howes
	Q	Q & A	2 & A				Line Treatment of	A Company	rsychiatrist
1030	-	Morning Tea					Depression Fails	•	
1105	•	HPV Related Otolaryngeal Cancer – A Modern Epidemic		Dr Cathy Ferguson Otolaryngologist	1540		Close of Conterence – final remarks		
	•	What's New in Colorectal Cancer		Mr Bernard McEntee General Surgeon					
	•	HPV and Cervical Cancer	1	Dr Amanda Tristram Gynaecology Oncologist					
1210		Lunch and Exhibition							

Legend

- Plenary sessions (Soundings Theatre)
- Lightning talks (short, sharp sessions)
- Q Questions for lightning speakers
- Concurrent sessions (you pick two for each session)

For the most current programme, please visit



Registration Details

Registration	fees	Earlybird	Standard
Doctor	Full	\$480	\$540
	Day	\$300	\$340
Nurse	Full	\$200	\$250
	Day	\$180	\$200
Other Health	Full	\$200	\$250
Professional	Day	\$180	\$200

Ways to register				
Online	www.acurity.co.nz/connect Please note you will be asked to select your concurrent session preferences during registration			
Email	connect@acurity.co.nz (we will contact you)			
More information	Visit www.acurity.co.nz/connect or call Sarah Malone on (04) 920 0158			

11 CME credits

The "Acurity Health GP Conference: Connect 2017" has been endorsed by The Royal New Zealand College of General Practitioners (RNZCGP) and has been approved for up to 11 credits CME for the General Practice Educational Programme (GPEP) and Maintenance of Professional Standards (MOPS) purposes.



Wakefield Hospital

Area: Cardiothoracic Surgery

Article written by: Adj. Professor Sean Galvin, Cardiothoracic Surgeon, ph (04) 381 8115

Pathology of the Anterior Mediastinum – Thymomas and Myasthenia Gravis

Radiological abnormalities of the mediastinum are common. They may cause symptoms such as chest pain or shortness of breath, or may be discovered when a patient presents with symptoms associated with another condition (e.g. myasthenia gravis or lymphoma). They are frequently discovered incidentally when a patient has routine imaging of the chest for some other indication.

Shields' described the threecompartment model of the mediastinum which facilitates differential diagnosis based on the contents of each compartment. These are comprised of (1) Anterior Mediastinum; (2) Middle (Visceral) Mediastinum and (3) Posterior (paravertebral) compartments (figure 1).

The anterior mediastinum is the compartment bounded anteriorly by the sternum, posteriorly by the pericardium. cranially by the clavicles and caudally by the diaphragm. The contents of the anterior mediastinum include the thymus, the internal thoracic vessels, internal thoracic lymph nodes, pre-vascular lymph nodes and fat and connective tissue. Adjacent structures may enlarge into the anterior mediastinum and may be difficult to distinguish from true anterior mediastinal masses, an example of which could be a pericardial cyst or a vascular abnormality such as a pseudoaneurym of the ascending aorta or of the supra aortic branches.

Typically the mnemonic of the five "T"s make up the majority of anterior mediastinal masses. 1 Thymus 2 Thyroid 3 Thoracic Aorta 4 Terrible Lymphoma 5 Teratoma and germ cell tumours.

In addition to these groups there are also a number of rare malignancies (benign and cancerous), infectious and non-infectious causes of masses in the anterior mediastinum. Also some patients may have thymic hyperplasia that can give the impression of a mediastinal mass or in young patients or as infants even cause a large symptomatic mediastinal mass.

Investigations

In addition to plain CXR, CT scanning with intravenous contrast is the primary modality of radiologic evaluation of anterior mediastinal masses. MRI may also be indicated in selected cases to help distinguish invasion.



Adi Professor Sean Galvin

Figure 1 Compartments of the mediastinum described by Shields¹

A solid well circumscribed anterior mediastinal mass in adults without cystic or fatty changes is likely to be a thymoma. Presence of fatty or cystic changes is suggestive of a teratoma and extra thoracic or widespread adenopathy may be more suggestive of lymphoma. Serum testing for alpha-feta-protein, beta-human chorionic gonadotrophin and lactic dehydrogenase can indicate germ cell tumours if elevated. These are important to check in male patients with an anterior mediastinal mass. In the majority of patients, it may be appropriate to proceed directly to resection for an isolated well defined anterior mediastinal mass however in the presence of radiological signs of invasion or metastasis, clinical symptoms

suggestive of lymphoma or if there is elevation of germ cell markers biopsy is appropriate. This can be undertaken by CT quided core needle biopsy, mediastinoscopy, mediastinotomy or thoracoscopically. Additional tests may also be required such as parathyroid hormone level, serum calcium, thyroid function tests or other endocrine markers if the mass is thought to be of endocrine or neuro-endocrine origin. Occasionally Technetium-99m-sestamibiscintigraphy may have been performed in patients with hyperparathyroidism and may have identified a sometimes small functionally active parathyroid gland in the mediastinum. Anti-acetylcholine receptor antibodies (anti-AChR) may be elevated in patients with MG.

Continued from page 11





The thymus gland is located in the anterior mediastinum with extension of the thymic horns into the root of the neck and along the pericardial reflections (figure 2). There are a number of recognised sites of extra thymic tissue that may occur outside the gland itself.

Thymoma's are the most common thymic tumour and make up >95% of all thymic masses and >50% of all interior mediastinal masses. Most patients are >40 years of age and over half are asymptomatic at the time of diagnosis. There is strong association of Myasthenia Gravis (MG) with thymomas and all patients presenting with myasthenic symptoms should be screened with CT on diagnosis. Up to 15% of patients with MG have a thymoma and 30 – 50% of patients with a thymoma will have symptoms of MG. Myasthenia gravis may require medical optimisation prior to surgical intervention as surgery may precipitate a myasthenic crisis if not adequately controlled. Thymoma's can be classified

according to a **number of conventions** as described by the WHO, TNM and the Modified Masaoka², classification systems and example of which is shown.

Survival with early Stage I thymomas (figures 3 and 4) is excellent with reported survival of 99% at 10-years and recurrence rate of less than 5%. Recurrence rates in Stage II (figure 5), disease is higher (up to 20%) and often necessitates post-operative radiotherapy, survival rates however remain excellent at 70 – 90% at five years. Stage III disease suggests

macroscopic invasion into adjacent structures (figures 6 and **7**). In patients, suitable for radical and complete resection surgery is still indicated and frequently combined with post-operative radiation therapy. In this group survival rates remain approximately 50% at five years. In some patients neo-adjunct treatment may be initiated prior to surgical resection. The optimal management of advanced stage IVa and IVb thymic malignancies is less clear and treatment decisions are made as part of a multidisciplinary team.



3 Operative view of a well encapsulated stage I Thymoma

STAGE	DEFINITION
I	Macroscopically and microscopically completely encapsulated
IIA	Microscopic trans-capsular invasion
IIB	Macroscopic invasion into surrounding fatty tissue or grossly adherent to but not invading through mediastinal pleura or pericardium
III	Macroscopic invasion into neighbouring organs (ie, pericardium, great vessels, or lung)
IVA	Pleural or pericardial dissemination
IVB	Lymphogenous or hematogenous metastasis



Adj. Professor Sean Galvin



Stage II Thymoma with microscopic extracapsular invasion and adherence to innominate vein and pericardium. View following thymectomy, note the partial excision of the innominate vein with primary closure and resection of a disc of pericardium





6 Stage III Thymoma with invasion into innominate vein and lung and pericardium treated by radical en bloc resection and reconstruction of innominate vein with a vascular graft

Continued from page 13

Myasthenia Gravis and Thymectomy

Thymectomy is indicated in patient with MG and thymomas but also in selected patient with symptomatic generalised non-thymomatous MG. Thymectomy has been known to improve symptoms of MG for over 75 years and several studies have shown benefit from thymectomy in this group. The decision to perform thymectomy is usually made after consideration of the duration and severity of symptoms, age of patient and existing comorbidities. Historically the response to thymectomy is reported as variable with approximately one third having significant, one third partial or one third no or limited response to resection. The clinical improvement may be early or delayed and some patients may have a relapse of symptoms despite an initial improvement. A recent randomised controlled trial published in NEJM³ has suggested that thymectomy improved clinical outcomes over a three year period in patients with nonthymomatous myasthenia gravis in particular with regard to patient reported symptoms, amount of steroid or immunosuppressive treatments required to control symptoms and hospital admission due to exacerbation of symptoms. Surgery for MG is always planned in conjunction with the patient's neurologist taking into account stability and optimisation of symptoms to prevent acute deterioration.

Surgical Approaches to Biopsy and Resection

Chamberlin Procedure / Anterior Mediastinotomy

This is performed under general anesthesia with the patient supine and provides excellent access to the anterior mediastinum. A 3 to 5 centimetre incision is made over the second costal cartilage lateral to the sterno-manubrial joint on the right or left side. Typically, we use this incision to biopsy rather than resect masses. This approach is used to obtain tissue in advanced malignancies or if lymphoma is considered as part of the differential diagnosis.

Transcervical Biospy

This is done via a collar-type incision above the sternal notch. It is used to biopsy lesions that lie directly beneath the manubrium or sternum. This can be combined with medisatinoscopy to sample lymphatic tissue adjacent to the trachea or mediastinal lymph nodes or other tissue in the subcranial space if required.

Thoracoscopic Biopsy or Excision (VATS)

VATS biopsy can be achieved on either side of the chest by either one, two or three 5 – 15mm port incisions. VATS biopsy or excisional biopsy of a lesion can be useful in some pathologies however may risk contamination of the pleural space or seeding of cells in the case of thymoma. It may also be indicated for excisional resection (without thymectomy) of benign lesions such as parathyroid glands, mediastinal lymph nodes (e.g. internal mammary chain nodes) or metastatic lesions to the anterior mediastinum.

Thymectomy

Thymectomy is indicated in thymic malignancies and in MG with or without thymoma. An en bloc thymectomy is indicated for all thymomas, including perithymic fat and cervical poles. There may be ectopic thymic tissue lying outside the thymus gland so in cases of myasthenia gravis require an extended thymectomy including resection of tissue including the mediastinal pleura, pericardiophrenic fatty tissue and dissection of the aortopulmonary window (figure 8) is required. Most commonly this is achieved by sternotomy (figure **9**) or by a VATS approach. Small tumour and non-thymomatous myasthenia gravis are suitable for less invasive VATS approach. This can be done with three 5 – 15mm ports on either the left or more commonly right side of the chest (figure 10) or by use of a subxiphoid port (figure 1) which assists in visualisation of the root of the neck, the contralateral phrenic nerve, improves completeness of resection and allows removal of the specimen without pressure on the intercostal nerve. When the indication for thymectomy is myasthenia gravis sternotomy and extended thymectomy has been the gold standard. However, sternotomy has been associated with increased morbidity and time

to recovery compared to minimally invasive approaches. This had meant that many patients are unwilling to undergo surgery despite the benefits of thymectomy in controlling MG symptoms. Advances in thoroscopic techniques and increasing use of these methods of resection have improved the ability to achieve satisfactory resection of all thymic tissue. Recent systematic reviews and expert opinion have suggested that in appropriately selected patient with non-thymomatous myasthenia gravis or those with small to moderate sized thymomas minimally invasive thymectomy has comparable clinical outcomes to open thymectomy but with reduced incidence of complications and patient morbidity^{4,5}. When the tumour is large or invading adjacent structures sternotomy and excision remains the indicated operative approach.

> "Thymectomy has been known to improve symptoms of MG for over 75 years and several studies have shown benefit from thymectomy in this group."



Adj. Professor Sean Galvin

7

Advanced Stage III thymic malignancy with invasion of lung, SVC pericardium and hilum of lung





8 Operative view following radical thymectomy



9 Radical thymectomy by sternotomy



10 Standard preparation for a right VATS 3 port thymectomy

Continued on page 16

Continued from page 15

Adj. Professor Sean Galvin

Anterior mediastinal masses are common in clinical practice. In the case of thymoma, the most common anterior mediastinal mass, outcomes are generally excellent with complete surgical resection, though some patients may require adjunct treatments such as radiation therapy. A number of conditions such as lymphoma or metastatic disease may present with anterior mediastinal masses and these need to be considered in the differential. Some patients may require a biopsy prior to considering definitive surgical resection depending on clinical symptoms, elevation in various tumour markers and radiological appearances of the mass. Thymectomy may also be indicated in some conditions such as MG where patients may have an improvement in symptoms and guality of life.

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1) Subxiphoid port allows improved visualisation of the superior mediastinum and the left phrenic nerve using an angled telescope and CO2 insufflation

WAKEFIELD

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ROYSTON

Royston Quality Awards

Congratulations to the team at Royston Hospital – winners of BAND commitment to quality improvement and patient safety award at the 2016 Hawke's Bay Health Awards.



Beyond the Prescription Pad



Richard Trendle

Pro Active

Area: Physiotherapy. Article written by: Richard Trendle, National Manager for Pain Management, ph 0800 868 259 or 0800 TOTALYOU

Beyond the Prescription Pad – What are the Options for Managing Persistent Pain?

Growing Prevalence

Persistent or chronic pain currently effects one in five New Zealanders with the prevalence growing by 37 percent since 2006. Once entrenched persistent pain can be difficult to treat, despite the exponential growth of our understanding of pain science over recent decades.

While chronic pain is now seen as a long term health condition in its own right, it has received little attention compared with other long term health conditions despite similar prevalence and significant individual impact of daily function, social interactions and overall quality of life.

The traditional approach to persistent or chronic pain is to conceptualise it as a symptom of injury or illness. This resulted in treatment that was focussed on addressing the underlying biomedical factors with the expectation that pain would then resolve. Evidence gathered over recent decades informs us that this is not the case, and that neuroplastic changes in the peripheral and central nervous system can result in pain persisting beyond the point where normal healing takes place. Pain persisting beyond expected healing times is an effective way of classifying chronic pain, and this definition is used by the International Association for the Study of Pain (IASP) along with the ICD operational definition of pain that persists or recurs for more than three months.

How to Recognise the Risk Factors of Developing Persistent Pain

The ability to recognise risk factors that may increase the likelihood of a patient developing chronic pain is critical. It is also an effective way to reduce the social, economic and long term health cost to the individual who may go on to develop this condition.

There are a number of specific predictors that doctors can observe for in those who are returning to the clinic with worsening or no change in their pain pattern. These factors can be broadly categorised into psychosocial factors, lifestyle factors and behaviours or cognitions relating to pain.

Psychosocial and contextual factors including previous injury history, socioeconomic factors, employment satisfaction, number of pain sites, and beliefs and attitudes to pain. Importantly high levels of anxiety, stress response and depression are strongly correlated with the transition from acute to persistent pain. These factors influence the pain experience through direct physiological mechanisms. In a recent New Zealand study into persistent pain, it was found that the prevalence of depressive symptoms (HADS-A score >7) was 33 percent, with the same figure for those suffering from high levels of anxiety.

Lifestyle factors such as poor sleep patterns and poor nutrition habits are both a risk factor and moderator of ongoing pain. Poor sleep will impact on recovery from injury and illness and also plays a significant role in the neurophysiologic changes to occur in the transition to persistent pain. It is also worth noting that up to 80 percent of individuals with chronic pain have ongoing sleep difficulties.

Behaviours and cognitions such as avoidance of activity due to fear of increased pain or re-injury, catastrophic thought processes including ruminating on the pain experience, magnifying its impact, and feeling helpless about the impact that pain is having are key risk factors of developing persistent pain.

A Useful Waiting Room Risk Factor Tool

The risk factors for developing persistent pain detailed above have been well captured and validated in the Orebro Short Form questionnaire. The patient administered ten item questionnaire gathers data relating to:

- Pain intensity & duration
- Sleep patterns
- Perceived function
- Psychological distress
- Perceived return to work expectancy
- Fear avoidance behaviours.

The Orebro Short Form is also the gateway into ACC's newly developed Pain Management Programme.

A Step Forward

Proactive are taking a contemporary approach to pain management, both for those with existing persisting pain and to prevent 'chronicity' in those recognised as at greater risk for developing the condition. By taking a truly multidisciplinary team based approach we are able to 'wrap' a core team of experts from different disciplines around the patient, leading to a client centric approach to managing pain and its downstream effects with the focus of restoring function and self-management. The core team comprises of an Occupational Therapist, Physiotherapist, Clinical Psychologist, and Medical Practitioner (Occupational or Pain Medicine, or Anaesthetics). Among others, a wider team can include Dieticians, Osteopaths. Councillors and growing access to Clinical Pharmacists.

The emphasis of the programme is on developing a client centric pathway for the individual to return to the highest level of function attainable. Communication between clinician, client and GP are a key component to the programme, and seen as critical to the successful outcome.

Proactive have the goal of leading Australasian outcomes for pain management, and are seeking to provide innovative strategies to lift the bar in this specialised but much needed area of rehabilitation.

The ACC Pain Management Programme can be accessed directly by a range of Health Care Providers on behalf of the patient. The client is required to complete an Orebro short form (link), as well as the provider completing a short ACC6273 form. For more

information and access to these forms visit http:// proactive4health.co.nz/ pain-management-services/

New Consultants

WAKEFIELD



Dr Peter Abels MBChB, Dip Obst, FRANZCOG, FCOG, MMed O&G

Obstetrician Gynaecologist P: (04) 472 4198 F: (04) 499 0358 E: peter.abels@otago.ac.nz

Speciality: Obstetrician Gynaecologist

Peter is an Obstetrician Gynaecologist operating at Wakefield Hospital, 30 Florence Street, Newtown, Wellington and Bowen Hospital, 98 Churchill Drive, Crofton Downs, Wellington.

Training: He completed his undergraduate and postgraduate training in South Africa and received his RANZCOG fellowship in 2010.

Special Interests: His special interests include endometriosis, polycystic ovary syndrome, menopause, laparoscopic and hysteroscopic (including office hysteroscopy) surgery, colposcopy.

Background: He has been working at Wellington Women's and Wellington School of Medicine since 2009 where he has been involved in laparoscopic and hysteroscopic surgery, colposcopy, endocrine gynaecology and high-risk obstetrics. He has been heavily involved with teaching of both undergraduates (TI supervisor) and postgraduates (registrar training supervisor) in O&G. His research activities include gynaecology screening and high-risk obstetrics.



Dr Ben Griffiths MBChB, FRACP

Gastroenterologist P: (04) 381 8110 F: (04) 381 8111 E: gastro@wakefield.co.nz

I am consulting at Wakefield Gastroenterology Centre, 99 Rintoul Street, Newtown, Wellington.

I provide friendly, patient focussed assessment and management of a broad range of gastroenterological and liver conditions and offer diagnostic and therapeutic gastroscopy and colonoscopy procedures.

Speciality: Gastroenterology, Hepatology, Endoscopy

Training: I am a graduate of the University of Otago (Dunedin and Wellington) and completed my advanced training in gastroenterology in the Auckland and Waikato regions. I then undertook a fellowship in Inflammatory Bowel Disease at the John Radcliffe Hospital, Oxford, UK before returning to work as a consultant gastroenterologist at Wellington Hospital and Wakefield Hospital.

Special Interests: IBD,

endoscopy (gastro), IBS, hepatology, coeliac disease, oesophagus, upper GI (gastro), lower GI (gastro). I also have a special interest in inflammatory bowel disease and am involved in conducting clinical trials in this area. Please refer to the Acurity Health website for my additional special interests. www.acurity.co.nz



Mr Ryan Johnstone FRACS (Orthopaedics), MBChB, BHB

Orthopaedic Surgeon P: (04) 569 7555 ext. 710 F: (04) 567 0041 E: info@boulcotthospital.co.nz

Speciality: Orthopaedic Surgery

I am an Orthopaedic Surgeon operating at Wakefield Hospital, 30 Florence Street, Newtown, Wellington.

Training: Rvan is a graduate of Auckland University and started his advanced training in Orthopaedic Surgery in 2006. He gained his fellowship in 2009 and then sub-specialised in Orthopaedic Sports Medicine initially in Auckland for six months completing the Adidas Sports Fellowship (2010) and then a further six months in Western Australia completing the Perth Orthopaedic Sports Medicine Fellowship (2010). He then travelled to London Ontario, Canada where he completed a further year of sub-specialty training in Spinal Surgery (2012).

Special Interests: Mr Johnstone has special interests in sports orthopaedics, spinal surgery and hip and knee joint replacement surgery – arthroscopy, hip, joint replacement, knee, shoulder and spine.

Background: Ryan is a Fellow of the Royal Australian College of Surgeons, and a member of the New Zealand Orthopaedic Association. He has been an Orthopaedic Consultant at Hutt Hospital since July 2012.



Dr Sinead Donnelly MD FRCPI, FRACP, FAChPM

General Physician P: (04) 381 8120, F: (04) 381 8121 E: specialist@wakefield.co.nz

Consults at Wakefield Specialist Medical Centre, 99 Rintoul Street, Newtown, Wellington.

My vision is to provide the best care for a patient by applying my medical skills and knowledge with a holistic approach and supporting the family/whanau.

Speciality: General Medicine

Training: Dr Donnelly completed her undergraduate Medical degree with honours at National University Ireland Galway followed by Internal Medicine training in Ireland and Scotland with a clinical research fellowship at the Cleveland Clinic, Ohio, USA.



Dr Sarah Usmar

MBChB (Otago), FRACS (Plasic Surgery) Dip Sports Med

Plastic & Reconstructive Surgery P: (04) 499 7642, F: (04) 499 9408 E: sarah.usmar@wpsi.co.nz

I consult at the Wellington Plastic Surgery Institute, 15 Murphy St, Thorndon, Wellington and operating at Wakefield Hospital.

Speciality: Plastic Surgery

Training: I am New Zealand trained in Plastic and Reconstructive Surgery with further sub-specialty training in Boston, Toronto and Sydney.

Special Interests: Hand surgery, paediatric plastic surgery, skin cancer surgery & cosmetic surgery.



Vicki Robinson

Dietitian P: (04) 381 8110 F: (04) 381 8111 E: vicki@wellnourished.co.nz

I am consulting at Wakefield Gastroenterology Centre, 99 Rintoul Street, Newtown, Wellington.

Vicki is a NZ trained Dietitian with many years' experience working with both individuals and on public health approaches to make healthy food choices readily available where we live work and play.

Speciality: Dietitian

Training: For the past eight years Vicki has worked at Regional Public Health to address population nutrition issues. Prior to that she worked for the University of Otago dietetic training programme and has been a patron of the NZ Coeliac Society. Vicki has recently returned to Wakefield GI Centre to provide individualised nutrition support.

Special Interests: She

- offers nutrition advice for: • Health, well-being and
- nearth, weil-being and minimising disease risk (from pregnancy to seniors)
 disease management
- especially gut and chronic nutrition disorders.

Vicki is registered to make applications for Special Authority Foods and to prescribe nutritional supplements where appropriate.



Georgia Wakefield

Dietetics P: 027 316 8868 F: (04) 384 9196 E: georgia@foodsavvy.co.nz

l am consulting at FoodSavvy, Level 1, 61-63 Taranaki St, Te Aro.

Speciality: Dietetics

Training: Masters of Science in Nutrition and Dietetics (First Class Honours) completed in 2013 at Massey University, Albany. Bachelor of Science in Human Nutrition completed in 2010 at Massey University, Palmerston North.

Special Interests: Georgia has a particular interest in digestive health and all things bowels, as well as in weight loss, bariatric surgery and diabetes. Georgia is qualified to prescribe special foods and supplements. Special interests include: digestive health/ FODMAPs, weight management, pre-diabetes, diabetes, bariatric surgery and heart health.

Background: Georgia has a true passion for food and is committed to helping people support their health through nutrition. Having previously worked as a Surgical and Intensive Care Dietitian at Whangarei Hospital and as a Clinical Dietitian at Kenepuru Hospital, Georgia gained skills and knowledge in delivering empathetic nutrition care and education for a variety of clinical conditions. Georgia has a keen awareness of the challenges facing clients, families and their whanau and is commitment to professional standards and evidence-based practice.

BOWEN



Dr Nicholas Kennedy MB ChB (University of Otago), FRACP Rheumatology, FRACP Clinical Immunology and Allergy

Consultant Rheumatologist and Immunologist P: (04) 479 2019 F: (04) 479 8563 E: spec.centre@bowen.co.nz

Speciality: Rheumatology and Immunology

Training: Nicholas graduated from the University of Otago in 2005 and undertook specialist training at the Wellington Regional Rheumatology and Christchurch Rheumatology and Immunology units. After gaining his fellowship in Rheumatology, Nicholas completed specialist training as a Clinical Immunologist and Allergist in Adelaide.

Special Interests:

- Rheumatology rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, systemic lupus erythematosus, sjogrens syndrome, scleroderma, inflammatory muscle disease, polymyalgia rheumatica and giant cell arteritis, gout, fibromyalgia, back pain and other non-inflammatory rheumatological conditions.
- Clinical Immunology and Allergy – hay fever and rhinitis, chronic sinusitis, medication allergy, food allergy, bee/wasp allergy, urticaria/hives, anaphylaxis, angioedema (swelling lips, tongue, eyes), primary immunodeficiency.



Mr Jonathon Richards MB ChB (Otago) FRACS (Ortho)

Spinal Specialist P: 04 464 0035 E: admin@woss.co.nz EDI: bownorth

Speciality: Orthopaedics

I am a Spinal Specialist and live and work in Wellington. I consult at Wellington Orthopaedic & Sports Surgeons, Bowen Specialist Centre and also has a public consultant position at CCDHB, Wellington Hospital.

Training: I am a graduate of Otago Medical School and of the New Zealand Orthopaedic Association training programme. I finished my advanced orthopaedic training in Wellington. My sub-specialty training in spinal surgery occurred at Royal Adelaide Hospital, Australia as a combined neuro/ortho spinal fellow for one year including adult and paediatric spinal surgery. I also trained in the spinal unit at CHU Pellegrin, Bordeaux, France with Professor J.C Le Huec for complex adult deformity surgery as well as a short AO spinal fellowship at Oueens Medical Centre. Nottingham UK.

Special Interests: I consult on all areas of adult and paediatric spinal surgery, general orthopaedics and trauma as well as primary hip and knee arthroplasty.

Contact Us







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