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Specialist in Focus



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Dr Loh is a Senior Consultant and Assistant Professor in the Department of Otolaryngology-Head & Neck Surgery in National University Hospital, sub-specialising in Paediatric Otolaryngology.

Dr Loh is a fellow of the Royal College of Surgeons of Edinburgh since 2000. He completed his residency in Otolaryngology in 2003 and went on to complete a fellowship in Paediatric Otolaryngology in the Children's Hospital in Denver, Colorado, USA.

He is trained in all aspects of Paediatric Otolaryngology. He has a special interest in hearing, airway and speech disorders in children as well as cleft lip and palate management. Dr Loh works closely with the Paediatric Aerodigestive Tract workgroup in managing children with complex airway disorders. He is trained in various aspects of airway reconstructions.

He is presently the Director of Centre of Hearing, Speech and Balance as well as the Centre for Hearing Intervention and Language Disability (CHILD) in NUH, which oversees the entire team of audiologists, speech therapists and ENT specialists involved in the management of patients with hearing, balance and speech disorders.

Dr Loh first started sialendoscopy in Singapore in 2009. This is a form of minimally invasive modality in managing benign obstructive salivary gland diseases, including calculi and strictures in the major salivary glands, minimising salivary gland extirpation in such conditions.

Clinical Highlights

New Surgical Options for Glaucoma

A. Conventional Glaucoma Treatment

Sialendoscopy is a procedure whereby small endoscopes are introduced into the major salivary ducts. It can be a diagnostic procedure as well as a therapeutic one. Many salivary gland infections or inflammations are a result of ductal calculi or ductal stenosis. Occasionally, they can be due to saliva stasis or mucous plugging.

The glandular swelling is a response to the damming of salivary flow, resulting to secondary inflammation and infection. Few studies have shown that removal of the ductal pathology allows restoration of the gland function; hence, salivary glands may be salvaged by removing the obstructive pathology.

The procedure can be done under local anaesthetics but general anaesthesia is preferred as there might be much manipulation involved. Intravenous antibiotics and steroids are given to minimise post-operative infection and oedema. The procedure begins with sequential dilatation of the salivary duct papillae to allow the ease of introduction of the sialendoscope [Figure 3].

Once entered, the sialendoscope can be navigated through the branches of the salivary duct down to the second-generation ducts. Upon diagnosis, the sialendoscope can then be used as a therapeutic tool. Small Dormia baskets can be deployed to remove small calculi [Figure 4]. Larger calculi (>3mm) might require prior fragmentation using laser or extracorporeal lithotripsy. Balloon dilatation can be performed to widen stricture and salivary duct stent can be inserted to maintain patency. An added advantage of sialendoscopy is the ability to re-inspect the salivary duct for additional pathology or calculi.



Fig 3. Cannulation and dilatation of Wharton's duct.



Fig 4. Removal of submandibular calculus using Dormia basket.



Fig 1. Marchal's All-in-one Sialendoscope Fig 2. Marchal's Modular Sialendoscope

The procedure

The main indication for sialendoscopy is to aid in the evaluation of any unexplained major salivary gland swelling.



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Dr Ong Yew Kwang is a Senior Consultant in the Department of Otolaryngology - Head & Neck Surgery in NUH. His subspecialty is in rhinology and endoscopic skull base surgery.

In 2009, Dr Ong pursued a year of clinical fellowship in endoscopic skull base surgery at the University of Pittsburgh Medical Centre under Dr Carl Snyderman and Dr Ricardo Carrau. His training was in complex sinus and skull base surgeries in collaboration with neurosurgeons. Following that, he also spent a mini-fellowship in functional rhinoplasty under Dr Yong Yu Jang at Asan Medical Center, Seoul.

Dr Ong is currently the co-leader of the endoscopic skull base service with the neurosurgeons, which specialises in managing skull base lesions including pituitary adenomas, craniopharyngiomas, meningiomas, chordomas and extensive sinonasal tumours. To date, he remains the only fellowship-trained skull base surgeon in Otolaryngology in Singapore.

Dr Ong also collaborates with the oculoplastic team in endoscopic lacrimal and thyroid ophthalmopathy surgeries. In addition, he has an interest in minimally invasive surgery of the head and neck, such as endoscopic-assisted thyroidectomy.

Clinical Updates

Minimally-invasive pituitary adenoma Surgery

Mr Ng, a 43-year old taxi-driver, presented with worsening headaches and double-vision for three months. MRI revealed a large pituitary tumour compressing on the optic chiasm (Figure 1). As he was at risk of blindness, he was recommended surgery.

Pituitary adenomas

There are three forms of pituitary adenomas. Microadenomas (<1cm) can be managed conservatively. Macroadenomas (>1cm) can cause compressive effects such as headaches (dural sheath stretch), bitemporal hemianopia (optic chiasm impingement) and cranial nerve palsies (cavernous sinus involvement). Functional adenomas secrete excess hormones, and are less common.

Earlier Approaches

Previously, pituitary adenomas were excised transcranially. This was associated with significant morbidity and a large scar.

Later, the sublabial trans-septal transsphenoidal approach is utilised, whereby a sublabial incision is made and a 'tunnel' is created between the septal mucosa to reach the sella floor. While this is less invasive, the use of a microscope and nasal speculum results in tunnel vision, and large tumours are often incompletely resected. Patients may require gamma knife treatment for remnant tumours.

Endonasal endoscopic pituitary surgery – minimally-invasive surgery

Currently, the endonasal endoscopic approach is used for excision of pituitary tumours. Endoscopes have the advantages of enhanced magnification and panoramic visualisation. Angled endoscopes allow visualisation of hard-to-see corners. The entire surgery is done transnasally, with no post-op facial scars.

The NUH skull base team comprises of a neurosurgeon and a skull base-trained otolaryngologist. A wide intranasal surgical corridor is first created to accommodate the endoscopic and up to three other instruments. The sphenoid sinuses are then opened to expose the sella floor. Tumour resection is performed by both surgeons simultaneously using a "2-surgeon, 4-hand" technique (Figure 2). This technique results in a more complete resection of large pituitary tumours.

Mr Ng achieved complete resection using this technique. Post-op, his vision improved and he was discharged five days later. By eight weeks, he had fully recovered his vision. Two years on, he remains disease-free.

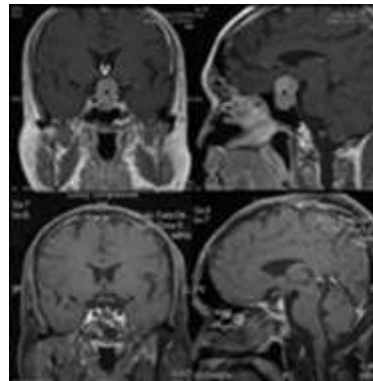


Figure 1. Top row shows the pre-operative MRI coronal and sagittal views of the pituitary tumour (*) compressing on the optic chiasm (V). Bottom row demonstrates complete resection of the tumour.



Figure 2. A routine endoscopic transsphenoidal surgery of a pituitary tumour case involving both the neurosurgeon and otolaryngologist using a 2-surgeon 4-hand technique



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News Updates

Eating was a pain for more than 30 years



After years of not being able to eat more than a few mouthfuls of anything, Madam Chan can now happily tuck into chicken rice, one of her favourite dishes. She underwent a procedure last year which involved sending a flexible tube called an endoscope through her mouth into the oesophagus to cut the muscle fibres that were preventing food from entering her stomach.

For more than 30 years, Madam Chan Choon Lin, 69, did not know why meal times were, literally, pain in the neck for her. Swallowing was painful and she coped in the early days by forcing herself to swallow hard. But it came to a point when drinking a cup of water took her an excruciating 10 minutes. The Chinese teacher, who spends at least four hours a day talking, was exasperated that she could not drink even when she felt thirsty.

At work, she stopped eating her lunch after only four to five mouthfuls and had to continue with the meal later in the day. Whenever colleagues asked about her eating habit, she cooked up excuses, such as feeling unwell or not having much appetite that day.

Madam Chan said: "I did not tell them about my difficulty in swallowing because I could not explain it myself." The early medical tests she had did not shed light on her problem, so she tried to find ways to help herself by opting for softer food, such as porridge and noodle soup. When she sometimes felt that food had become stuck in her throat, she forced herself to regurgitate by putting a finger down the back of her throat. She recalled: "After that, I would try to eat again by drinking a small amount of water and then an even smaller amount of food, hoping to get it down my throat successfully." The mother of two even stopped travelling because she could not enjoy the local delicacies.

In 2006, when she was 60, Madam Chan finally had a name for her problem. She learnt that she had a rare disorder, known as achalasia, after undergoing a test that measures pressures in the oesophagus – a muscular tube which transmits food from the mouth into the stomach. Once food enters the oesophagus, it is transmitted down through a series of muscular contractions by a process called peristalsis.

The test found that she had a tight lower oesophageal sphincter and an absence of peristalsis – two key features of achalasia, said Associate Professor Jimmy So, a senior consultant at the National University Hospital's (NUH's) division of general surgery.

It was why food got stuck in her oesophagus, instead of entering her stomach, and caused her extreme discomfort. Over time, the oesophagus became dilated and worsened her problem.

Achalasia affects about one in 100,000 people worldwide, though the exact cause is unknown. For the next seven years, Madam Chan had about six endoscopic Botox injections to paralyse the muscle of the oesophageal sphincter to allow her to swallow more easily. The injections gave her reprieve, but she was disappointed they did not last.

The effect of Botox is transient, with more than half of patients relapsing after a year and requiring multiple injections. The duration of effect also shortens subsequently, said Prof So, who has a special interest in upper gastrointestinal disorders. Last August, Madam Chan underwent a scarless procedure known as peroralendoscopicmyotomy, or Poem for short, with Prof So. Poem involves sending a flexible tube called an endoscope through the patient's mouth into the oesophagus to cut the muscle fibres that are preventing food from entering the stomach. The older method of laparoscopic myotomy involves dividing the muscles in the oesophagus by making five or six small cuts in the abdomen.

Madam Chan is one of 22 patients who have benefited from Poem, which was first offered at NUH at the end of 2014. About 40 doctors will be trained in Poem at a symposium and hands-on workshop at NUH on April 29. The Journal Of The American College Of Surgeons reported last year that 90 per cent of 500 achalasia patients remained symptom-free three years after undergoing Poem.

Adverse events were rare (3.2 per cent) and there were no deaths. Another study showed that compared with laparoscopic myotomy, Poem is quicker, requires a shorter hospital stay and is equally efficacious. At NUH, Poem costs about \$4,000 for a subsidised patient and about \$15,000 for a private patient. These costs include three days of hospital stay. Madam Chan knows first-hand how the simple joy of eating and drinking should not be taken for granted. She counts chicken rice and apples among her favourites, which she steered clear of previously. "I couldn't enjoy food for so many years, but now I can eat all kinds of food. "When you see delicious food and cannot eat, what joy is there in living?" she said.

Source: *The Straits Times* (Published on 19 April 2016)

Upcoming GP CME Events

Date	Topic
28 May	Common Issues in Developmental Paediatrics
4 June	NUH Headache Symposium- a primer for primary health physicians

Registration & Lunch will start at 1.00 pm

Event Venue:
NUHS Tower Block Auditorium
1E Kent Ridge Road, Singapore 119228

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