

TWJ Short Fellowship and Bony Obliteration Tympanoplasty Course Report - Nov 2016

European Institute for ORL, Sint Augustinus Hospital, Antwerp, Belgium

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After successfully being awarded the fellowship in Antwerp, my observership commenced at Sint Augustinus Hospital in November with a welcoming team of Residents, Fellows and Consultants led by Prof. Offeciers.

On the first day with him it was an unexpected surprise to observe a soft and bony meatoplasty in isolation – even more so on a 3D TV screen! It's a technique that all the consultants adopt at the Institute, adapted from Mirck's original description. It involves a spiral incision of the EAM skin laterally, with two further incisions dropped into the concha, forming an inverted V. The entire area is debulked, with bony canalplasty in addition if required, and two of the triangular flaps are excised and replaced medially in the EAM, once the spiral flap has been rotated laterally. It was beautifully elegant and the resultant meatus was impressive. This was all performed whilst discussing the musical merits of Johann Sebastian Bach, Billie Holiday and Ella Fitzgerald, whilst listening to them and other favourites of his! Further cases that day with the team included a stapedotomy (CO2 laser and Cause piston), an SPA ligation and the start of a total thyroidectomy for papillary carcinoma.

The second day with Dr Schatteman included another meatoplasty and in the afternoon attendance at Dr Somers and Dr van Havenberg's joint Skull Base clinic. Although the consultations were in Dutch, my school knowledge of German was enough to allow me to broadly follow the conversation in most cases. Quite fortunately, the following day involved a retro-sigmoid approach to an acoustic neuroma followed by them performing a facial nerve decompression in a child with recurrent idiopathic facial nerve palsies. In the adjoining theatre Prof Offeciers was undertaking an examination of middle ear in a child with bilateral CHL and aerated middle ears (found to be due to adhesions of the ossicular chain).

The following day Dr Somers performed a blind sac closure on a lady with recurrent cholesteatoma in a dead ear. The cholesteatoma was retrieved from the sinus tympani, which was further examined with the 30° endoscope. I was fascinated to see the use of a pedicled flap of the tensor tympani muscle, uncovered from its bony canal to swing inferiorly and obliterate the eustachian tube. Abdominal fat obliterated the rest of the cavity and great care was taken to ensure that the meatal sac was closed without inclusion of residual epithelium. The second case was an attic retraction and CHL with an intact chain. The MRI was negative but the CT showed erosion of the scutum and soft tissue within the attic. The approach was per meatal with the assistance of the 0° endoscope. There was incus fixation which was dislocated, refashioned and replaced, with an island of thin tragal cartilage on perichondrium used to reinforce the attic.

The following week I observed Joost van Dinther perform the bony obliteration technique (BOT) in a patient with recurrent cholesteatoma. A chisel and hammer were used to distract bone chips from the mastoid cortex and a bone collector used for the bone paté harvest. Both were kept in rifampicin. A full mastoidectomy was performed including drilling anteriorly into the anterior epitympanic cells (to 11 o'clock in a left ear). A posterior tympanotomy was performed and the fossa incudis was removed with the remains of the incus and malleus head and neck. Then the anterior epitympanum was occluded with bone chips in addition to the post tympanotomy and attic. Otomimix was used to smooth over the surface of the repair to avoid any areas of potential retraction to form. The chips were secured with Tisseel (applied separately). Ossiculoplasty was performed with a refashioned incus and glued onto the stapes head.

The following day I observed Prof Offeciers undertake two cochlear implantations with a nifty trick of leaving the inferior portion of the mastoid cavity with a lip to keep to coiled electrode under. This was in conjunction with creating a protective shelf for the base of the electrode at its junction with the receiver-stimulator.

Throughout the week I realised quite how much emphasis they place on imaging. The duet of cone-beam CT and non-EPI DWI MRI was standard fare for the vast majority of patients passing through the operating room: even if there was a clear clinical diagnosis of cholesteatoma, an MRI was still performed. They use them to anticipate potential issues, but in the case of MRI in a known cholesteatoma, they try to determine which areas it may be affecting, thus helping to plan the surgery. Of course the role of imaging continues in the follow up of their BOT patients.

I was also extremely fortunate to sit in on their once-monthly radiology meeting with Jan Casselman and Bert de Foer, discussing complex cases and reviewing their cone CTs and DWI MRIs. This gave me an appreciation of how much they have turned interpreting these images into an art form, which few radiologists I have met possess. The remainder of the week was spent on the BOT course:

6th Bony Obliteration Tympanoplasty course, Antwerp, Belgium

This three-day dissection course was held on 23-25th November at the European Institute of ORL, Antwerp, Belgium. It is designed for Otologists who wish to further their knowledge and skills of the bony obliteration tympanoplasty (BOT) technique that the unit has widely published on. The faculty comprised not only the surgical proponents of the BOT technique, but also the radiologists who are imperative for supporting the surgical team pre-operatively and more importantly in the ongoing follow up of these patients in the detection of any residual or recurrent disease with non-EPI diffusion weighted MRIs. The Honorary Lecturer this year was Matthew Yung, Ipswich, UK who shared his lifelong experience of bony obliteration of mastoids with hydroxyapatite materials and pedicled musculo-fascial flaps in addition to discussing the recent European consensus on the management of retraction pockets.

The course was a perfect mix of short presentations, dissection and 3D observation of live surgery. The BOT technique was described in detail alongside their mounting evidence of the success of the technique in minimal residual and recurrent rates of cholesteatoma. Live surgery from the operating theatre downstairs was transmitted by their 3D television throughout the course, significantly enhancing understanding of the surgical technique, including the difficulties one might experience when starting out and the pitfalls to avoid.

10 delegates from Canada, Greece, UK, Poland, Czech Republic, Netherlands, Belgium and France dissected over a total of 10 hours across the 3 days on a fresh frozen head and a preserved temporal bone. This allowed not only the practice of the BOT principles but also their meatoplasty technique, which is often performed in tandem for these patients, or the blind sac closure in non-hearing ears which remain symptomatic. The technique of rebuilding a posterior canal wall and obliterating a modified radical cavity was also described and practised with the use of bone chips and pate. This took place in their purpose built skills lab (www.skillslab-antwerpen.be) with state of the art equipment and facilities, including a continuous live feed from theatre.

Although I was the only trainee on the course, combined with the period of observation as part of the Short TWJ fellowship that I undertook during the week prior to the course, I found it to be a wholly worthwhile learning experience. The team are now looking forward to hosting their next course in January for Young Otologists in training. Further information can be gained by visiting www.otologyclass.EU.