

VOICE CLINICS FORUM

8th November 2013, Postgraduate Centre,
City Hospital, Birmingham

Report by Alison Mary Sutton

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This was the first time that I had attended a Voice Clinics Forum and it was a fascinating day from my perspective as a singing rehabilitation coach. With an increasing number of clients, I am keen to develop a greater understanding of a wider range of vocal disorders and the medical procedures employed to address them.

The day opened with Julian McGlashan presenting a comprehensive review of "Hot Topics in Voice". He focused mainly on three areas, the first being spasmodic dysphonia and the question as to why botulinum toxin injections are not uniformly beneficial. He then moved onto the benefits of High Speed Digital Imaging vs Videolaryngostroboscopy. Mr McGlashan pointed out that although techniques and software are improving, the significant issues about this equipment are that only short bursts of phonation (2–4 seconds) can be recorded at one time and that big files are generated. In his opinion, it should not be viewed as a replacement for stroboscopy for routine clinical practice at present, but rather as providing additional information and understanding in difficult cases. He also talked about the work of Markus Hess on a potential laser of the future – a picosecond infrared laser, which could prevent charring effects to the vocal folds. The session ended with a review of PROMS (Patient Reported Outcome Measures), which are becoming increasingly important as clinicians are expected to evaluate the efficacy of treatments. Comment was included on VOISS (Voice Symptom Scale) and a re-evaluation of the grouping of questions in the VHI (Voice Handicap Index), to better reflect the severity and impact of the voice problem on the patient's quality of life. This ranged from voice orientated difficulties, through practical problems, to

disturbances of social relationships and mood. ENT-UK and the British Laryngological Association are currently developing a laryngeal audit in which these (or a variant of) PROMS will have pre-eminence.

Nick Gibbins, from University Hospital Lewisham, then reviewed the status of "Recurrent Laryngeal Nerve Reinnervation" for vocal fold paralysis. He elegantly recapitulated the history, starting with Galen, going forward to the airway problems of thorough-bred racehorses and then to 20th century ground breaking work by Harvey Tucker and Roger Crumley. He took us into the 21st century with the work of Jean-Paul Marie, after which he posited a paradigm-shift in the approach to unilateral nerve paralysis, with reinnervation replacing arytenoid adduction. Having worked with clients with vocal fold paralysis, I was most interested to hear more about the anatomy of the RLN and how synkinesis (the result of miswiring of nerves after trauma) plays a major role in reinnervation. The current surgical technique is to innervate the abductors and adductors separately. It was helpful to hear in greater depth the differences between BVCP and UVCP (bilateral and unilateral vocal cord palsy). With surgical treatment of BVCP, it is a case of the dilemma between good airway vs good voice, and how a compromise between the two can be achieved, which often results in tracheostomy or arytenoidectomy. Selective reinnervation offers both good airway and good voice, but it is a large operation that takes nine months for results to show i.e. the length of time that the nerve takes to regrow.

With UVCP, patients rarely have airway difficulty and voicing is often reasonable, so reinnervation as an option is not as crucial as for BVCP. However, with non-selective reinnervation, the normal arytenoid position and mucosal waveform are maintained, with good TA muscle bulk. More patients are presenting with poor voice quality, so the demands for this type of treatment are increasing. There was some lively discussion at the end of this session.

The final session of the morning was three short presentations and discussion on "Surgery for Difficult Lesions" e.g. sulcus vergeture and mucosal bridge. Tony Aymat pointed out that good surgical outcomes do not always result in equally good outcomes in vocal function. Cysts can re-occur if not totally removed in surgery. He played us a fascinating video of the debulking of laryngeal papillomas with amazing results on vocal function, i.e. terrible voice to functional voice, with even the return in time of a mucosal wave. Declan Costello talked about whether a medialization injection would help with atrophic or thyroidectomy patients, saying that he would also consider injecting Botox in a patient with laryngeal tremor. He presented several case studies, and the following discussion between consultants covered their favoured surgical techniques. Julian McGlashan presented a case study of a 33 year old woman with a haemorrhagic polypoid lesion, explaining that in 30% of such cases some lesion occurs on the vocal fold opposite the polyp e.g. a sulcus. The discussion focused on the potential benefit of removing the polyp only, but it was pointed out that the sulcus could be its original cause.

In his review, after lunch, of the history of the BLA (British Laryngological Association), Yakubu Karagama, from Manchester Royal Infirmary, spoke about its origins in the 1860's and how it eventually led to the amalgamation with the laryngological section of the RSM (The Royal Society of Medicine) and the development of the new BLA in 2011. He talked about the BLA's aims to achieve advancement in laryngology, for the benefit of the public, through research,



Mark Watson (left) and Julian McGlashan

education and training. Further aims are the promotion of medical, surgical and rehabilitative aspects of laryngology as well as training and laryngology fellowship in various areas. The BLA also aims to provide advice on laryngology to ENT-UK, the Department of Health and other organisations, both in the UK and abroad. The next national meeting will be on 26th June 2014.

Mr Karagama then spoke about "Surgery for Functional Dysphonia", noting that there is a 7:3 ratio in the current incidence of hyper to hypofunction. He pointed out that surgery has a role to play in selected cases when there has not been significant progress made with speech and language therapy. Botox injection can help in the treatment of spastic contractions of the vocal folds in spasmodic dysphonia. There is also a recent trend in laser thyroarytenoid myoneurectomy as a surgical option for some of these patients. Mr Karagama showed us an interesting video of him performing this operation on one of his patients, as well as an equally interesting film of an injection to correct a glottal gap. Singers often present with a hypofunctional glottal gap, and it is this condition that makes up the majority of my rehabilitation clients. In most cases, the optimising of subglottic pressure, along with onset work, result in greater vocal stability and stamina. In the discussion section, the importance of psychological evaluation was underlined.

The final part of Mr Karagama's presentation was "Laryngopharyngeal Reflux in Singers: incidental findings or real?" He noted that up to 15% of ENT visits involved LPR and that half of voice disorders may be related to LPR, costing the NHS millions of £s per year. The dilemma is between patient presentation of non-specific signs and symptoms, a 25% spontaneous resolution and a 50% chronic course. LPR associations can be varied, including muscle tension dysphonia, Reinke's oedema, laryngospasm, laryngitis and granuloma. Pathophysiology can be from direct injury - acid reflux, direct exposure to pepsin (pepsin at PH4 depletes carbonic anhydrous which is protective of the larynx) - and secondary mechanism of constant cough-trauma to the larynx, as a result of irritation to the vagus nerve. Mr Karagama spoke about the controversies of LPR - how it is distinct from GORD and how to confirm diagnosis and appropriate medical treatment. Questionnaires were also reviewed. The question raised was whether being in an occupation with high vocal load is a risk factor for this condition. Manifestations in singers can result in decreased vocal range, voice breaks, muscle tension and throat clearing. Current investigations include PH study plus/minus impedance and pepsin tests, which are likely to become important. A trial of PPI/antacids is considered proof of the initial diagnosis, and LPR cannot be excluded with a non-response to this treatment. After stating his own current treatment of LPR, Mr Karagama concluded that LPR is still controversial but real, and that further clinical studies are needed to improve understanding of this common and well-recognised condition. There were very clear hand-outs to accompany his presentations. In the discussion that followed, Alison Mary Sutton spoke about having been diagnosed with LPR some time ago, following a prolonged chronic cough and decreased vocal stamina. Respiratory tests had been negative. She had consequently reduced her intake of specific acidic foods, having heard that pepsin could be a factor. Subsequent examination at ENT showed a considerable lessening of laryngeal irritation and her cough also decreased significantly.

The next session was on the new acoustic analysis developed as an App that is compatible with iPhones and Apple devices,



(left to right) Sara Harris, Jacob Lieberman, Nick Gibbins, Tony Aymat, Linda Hutchison, Rehab Awad

named OperaVOX (On Person Rapid Voice Examiner for the Mobile Assessment of Voice). It was chaired by Declan Costello, who 'set the scene'. Owain Rhys Hughes, one of its developers, presented some insights into its origins as a user friendly hand-held device that could be used on a regular basis to analyse certain aspects of voice. These include fundamental frequency, formants, maximal phonation time, certain perturbation features such as jitter, shimmer, harmonic to noise ratio, vocal range and VHI 10. Marina Mat Baki then presented original research, looking at inter and intra individual reliability with OperaVOX and comparing it with the MDVP (Multidimensional Voice Program) software. It compared favourably in most of its analyses. John Rubin then presented illustrations of its use in a few clinical scenarios, emphasising its ease of use. He spoke about the efficiency of OperaVOX, pointing out that it can be used as a pre-operative analysis and giving an example of its use before and two weeks after surgery, when the fundamental frequency (fo) and jitter/shimmer levels had lowered. A quiet room is required for OperaVOX to be fully effective, and it is not yet available on Android. A lively discussion followed, which focused on the reliability and role of perturbation analyses of voice. A very informative handout accompanied this presentation.

The final session of the day was the presentation of Research/Audit papers. The use of the 'chin-lift', to improve the viewing of the vocal folds with flexible nasendoscopy, was the audit presented by core surgical trainee Rachel Edmiston. She found that supporting the chin increased the anterior/posterior distance between the epiglottis and the posterior pharyngeal wall, enabling the scope to avoid contact with the epiglottis and, therefore, to be a more comfortable experience for the patient. Sitting forward, rather than in the traditional upright position, elevates the patient's chin and extends the neck, allowing the scope to enter the nasal cavity at an angle of 45 degrees compared to the traditional 90 degrees. This gives a clearer view of the larynx, with the added ability to detect the finer detail of the vocal folds.

As up to 65% of speech therapy patients fail to adhere to therapy, specialist SLT Fiona Gillies presented her audit on the use of DVD instructions as a potential way to improve this situation and effect better voice outcomes. The rationale for this research is that patients practise twice as much with video instructions as they do with written exercises, it is hoped that adherence will improve by giving patients confidence in their ability to practise.

Specific joint and muscle work in laryngeal manipulation was the topic of the research paper presented by Voice Specialist Osteopath, Jacob Lieberman. His interest, from the manual

physiotherapist's point of view, is how to access the very specific muscles or joints to be manipulated. He focused in particular on the thyrohyoid muscle, pointing out that it is very big in relation to other laryngeal muscles, and that it is capable of being manipulated in several different directions. An interesting manoeuvre is the effect of a thyrohyoid twist on the aryepiglottal fold, which is difficult to access from outside the body. Referring to the mobilisation of the cricothyroid joint, it has not previously been thought possible to affect this manoeuvre. Mr Lieberman pointed out that once there is an understanding of the movement of the joint, it is possible to develop techniques to stretch and shorten the vocal folds. In general, when certain parts of the laryngeal mechanism are targeted, their movement influences the rest of the mechanism. This was demonstrated in fascinating filmed animations of the manipulation of the joints and structures of both the cricothyroid and thyrohyoid mechanisms. Mr Lieberman also showed a film of a singer with depleted voice, both before and after manipulation. By working with the arytenoids, he was able to effect greater efficiency in bringing the vocal folds to the mid-line. This was achieved by manipulation under nasendoscope with the chip on the tip. In that manoeuvring, the active arytenoid was inhibited in its abduction direction while the weak side was encouraged to cross the mid-line medially.

Finally, Kate Heathcote, ENT Consultant, presented two research proposals, one investigating long-term intubation complications following thyroplasty type 1 procedures, and the other the development of a National Laryngeal Cancer database focused on functional voice and swallow outcomes. There was considerable discussion on these ideas, and the nascent BLA Head and Neck ENT-UK sponsored audit, looking at microlaryngoscopy, was also discussed. It is likely that all surgeons performing microlaryngoscopy will be required to submit data to this latter audit.

In conclusion, this was a most stimulating and enjoyable day, enhanced by meeting friends and colleagues. Through the material presented, it gave delegates the opportunity to discuss ground breaking work and research.

With grateful thanks to John Rubin for his input into this report, and to other speakers at the forum for verification of medical detail.



(left to right) Philippa Moll, Tori Burnay and John Rubin

Past President, Linda Hutchison adds...

I have to admit there were times as I drove through the deserted streets at 05.40 on the morning of 8th November that I wondered why on earth I was doing this. Tony Aymat had been in charge of booking the train tickets. He had chosen the 07.23 from Euston. In order to get there, I was making my way to Ebbsfleet International to park the car and catch the HiSpeed to St Pancras. Once there it was a short hop to Euston where I met most of the team already ordering early morning coffees. It was Voice Clinic Forum Day and we were on our way to Birmingham. The Friday morning Voice Clinic in Lewisham, which has morphed from the Sidcup Voice Clinic, is led by laryngologist, Tony Aymat, a consultant who knows the restorative value of the croissant and the pain au chocolat. And the clinical lead speech and language therapist Rehab Awad's understanding of the voice is strongly underpinned by the knowledge that morning mocha is a necessity of life. So Friday mornings in Lewisham are always a pleasure. But this early in Euston? This year we were going in force. Our osteopath, Jacob Lieberman, was on board as was Nick Gibbins, the lead laryngologist in the Friday afternoon Voice Clinic. Sara Harris, who works with Nick, was already in Birmingham. So, once we arrived, we had the full complement of Lewisham's Voice Clinics. Tony, Nick and Jacob were all speaking at the Forum.

Nick Gibbins gave a presentation on a very exciting development in laryngeal surgery; that of Recurrent Laryngeal Nerve Reinnervation. His talk covered the research and development through the centuries that brought us to where we are now, the complex issues involved and the particularly encouraging and successful work being done in Rouen. It seems to be proving a viable option for both unilateral and bilateral vocal fold palsy. I took particular pleasure listening to Nick's highly informative and entertaining presentation as I first met him when he was training. I was in the Medway Voice Clinic the day he had to sit in for the consultant who had been called to an emergency. He was extremely good with the patients and he asked for both the speech therapist's and my input – so naturally we realized he was a winner! And so I am delighted that he has centred his interest in voice and that he is now at Lewisham.

Tony Aymat showed us film of him operating to remove papillomas using coblation. He was talking in the section about surgery for difficult lesions. The technology, which is used more commonly for tonsillectomy, works at low temperature, unlike lasers, and so there is not the risk of burning and there is minimal damage to surrounding tissue. We watched as the papillomas seemed to be dissolved and then 'hoovered' up. The results are very positive and so this is another exciting development in laryngeal surgery.

We hope, particularly as singers, that we will not have to face surgery. But the Forum gave us plenty of positive news about the developments in surgery that make the prospect less daunting. It was also good to spend a day in the company of like-minded colleagues who all contribute to the health and well-being of voice users, be they professional or not. The BVA is to be cherished and supported in its continuing work to promote, share and encourage research, development and knowledge in the field of voice.