

PROCEEDINGS OF THE AMERICAN ACADEMY OF OTOLARYNGOLOGY,
HEAD AND NECK SURGERY, 105TH ANNUAL MEETING

Dr. Imtiaz Ather Siddiqui*

American Academy of Otolaryngology-Head and Neck Surgery Foundation (AAOHNS'F) which is the world's largest and oldest body in the field of ENT and Head and Neck Surgery, organized its 105th annual meeting in New York, the "Apple City" of USA from September 19-22nd 2004. The educational programme included 25 mini seminars each one on a specific specialty and the topics were presented by experts in the field. Many of the mini seminars were in an interactive format to ensure audience participation and retention. The participants had an option to choose from an array of instructional courses on topics like vocal cord paralysis, endoscopic sinus surgery, robotic surgery, balance, equipment assisted surgery and practice management.

The highlights of the annual meeting like every year were the roster of renowned speakers who discussed a wide range of topics. The key speaking events included the "Neel lecture" delivered by Mary Claire King Ph.D, "Eugene D. Meyer's lecture" on head and neck cancer was delivered by David H. Howard. "John Conley lecture" on medical ethics was delivered by Her Majesty Queen Noor of Jordan and "Foundation Research lecture" was delivered by Nanny L. Synderman. Additional educational opportunities included 18 presentations by committee members, three international symposia, 221 poster presentations covering interesting and unusual cases and 172 oral presentations by researchers from all over the

world. This year the number of participants were about 13,000 which is the highest number of registered delegates in any ORL meeting making it a mega academic event of the specialty globally.

Promoting healing and security in an insecure world. In the opening session the delegates and participants received a healthy mixture of celebrating specialty achievements with an urgent appeal to make efforts to improve healthcare delivery worldwide. AAO-H&NF President Jennifer Derrebery presented the academy's achievements in her presidential address. While delivering the John Conley lecture, Her Majesty Queen Noor of Jordan encouraged the delegates to promote healing and security in an insecure world. Queen Noor is a Princeton University graduate who has worked for humanitarian causes throughout the world. She spoke her experiences and highlighted key ethical issues being faced by medical community at present. The central theme of Dr. Conley's professional life- that the advancement of medicine and patient care should transcend different cultures, political philosophies and faiths was the back drop of her majesty's speech to the opening ceremony. Addressing the participants Queen Noor said that "Each one of you is a leader in your community and I implore you to support the effort to bring peace and health to mankind. You can use your connections to help construct a new type of security built on a health care system that benefits all". Queen Noor applauded the AAOHNSF's humanitarian programme, specially its grants to young medical residents to travel abroad to offer medical assistance to the under served, as well as academy's ongoing initiative to send medical text books and equip-

* Dr. Imtiaz Ather Siddiqui
Senior Registrar,
Department of ENT, Head and Neck Surgery
Jinnah Postgraduate Medical Centre, Karachi-Pakistan
E-mail: siddykee@yahoo.com

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ment to colleagues in other countries who need it. She also lamented the “draconian” US Visa restrictions, policies to healthcare providers abroad and encouraged the participants to use their voice to protest against such restrictions. As physicians, as volunteers and as concerned citizens of the world, you can be part of a real coalition for peace, she remarked.

Robotic Surgery: Robots no longer exist only in science fiction movies. This is especially true in the operating rooms said David J. Terris who spoke on the “Robotic Surgery in Otolaryngology - A look in the future” mini seminar on first day after inauguration ceremony. “The future is now”, Dr. Tarris said, but if you are like I was a couple of years ago, the notion of robots conjured up image of “lost in space” and a robot saying, danger. Dr. Terris, along with his colleagues presented the advancements that have been made in the field of robotics and especially surgical robotics. He reviewed the history of robotics and how people can benefit from it. Robots can carry out many functions but only rarely have they been depicted in the media as surgeons. They can be useful in the surgical fields. For example by using robotic technology, a doctor could sit at a console in New York and control the robotic arms performing surgery on a patient in Paris. Use of this type of surgical robotics would allow advancements such as minimal access in coronary artery bypass grafting and minimally invasive mitral valve repair. Other advances are the 3D visuals, improved dexterity, multiple degrees of freedom, ease, it creates in microsurgery and ergonomics.

Disadvantages of robotic surgery include the absence of tactile feedback, the capital investment, unproven benefit and the fact that many robots must be replaced after using them for ten times. However, robotic surgery applications continue to evolve. “This technology is here and is here to stay”, Dr. Terris remarked. The most used robotic surgery technology today is Intuitive surgical Inc. Surgical system, which has two parts. Part one is the actual machine which consists of three or four arms including the camera and equipment. The sec-

ond part is where the surgeon physically sits utilizing hands and feet to control the arms of the machine while looking through 3D lenses. In Dr. Terris’s experiments on a pig and human cadavers, he found that critical innovations were the true 3D visualizations, the robotic wrist mechanism, which allows for six degrees of freedom and the promotional motion allowing commands given in the console to be carried out by the instrument. But no matter how great that sounds, Dr. Terris cautioned that it does not eliminate the possibility of human error. “As technology advances, people stay the same”, Dr. Terris stated. He was of the view that robots are adept at suturing, dissection, tremor-filtrations and endoscopy while other benefits are the magnification, motion scaling and wrist movements. Robotics are helpful especially when performing tasks like suturing in small places with endoscopic instruments. But robotics does not make everything easy. Set up can be difficult and assistant surgeon may be necessary to work alongside the robots, creating a tight workplace. Robotic surgery will allow advancements in endolaryngeal and endotracheal surgery. The future of robotics in surgery is not certain but we as practitioners should “push the envelope”.

Robotics does not make every thing easy. That is what he experienced while working at Walter Reed Medical Centre. He was of the view that despite the fact that the future of Robots in surgery is not certain, there is a lot we can do as otolaryngologists.

Sleep Apnea: Treatment options for obstructive sleep apnea and other disorders have come a long way and many of these advances were discussed during the scientific session devoted to sleep disorders. Important highlights were portable home sleep monitoring device as addressed in the “Portable Home Sleep Study - A suitable alternative to polysomnography. Presentation and palatal implants to impede snoring as addressed in the “ Palatal implants for the treatment of snoring: long term results”. As a means to measure sleep apnea investigators are searching for alternatives to

polysomnography with its long waiting times which delays diagnosis and treatment. A group of US Air force investigators conducted a prospective clinical trial on sixty patients, wherein patients were tested with both portable home sleep test and polysomnography. According to Peter G. Michelson, a Captain in US Air force what investigators found was definitive, statistically sound measurement of the apnea-hypnea index by the portable home sleep test as compared to polysomnography. This study conclusively demonstrated this as compared to the widely used and epidemiologically validated test for detecting the presence of obstructive sleep apnea.

During the session on palatal implants Stale Nordgard discussed his study on evaluating safety and long term effectiveness of a new treatment for snoring using permanent palatal implants. In this prospective study, 34 patients who experienced habitual snoring received these braided palatal implants in their palates. As a result of the procedures the mean snoring intensity was reduced from 7.1 at baseline to 4.8 at one year. In terms of patient satisfaction, 79.7% patients and 70.6% of their partners said they were satisfied with the reduced snoring results that ensued after the implants. The lesson learned is that if you select the patient properly, it is possible to reduce snoring. This is an exciting new treatment for a number of people who experience sleep apnea. In another study on primary snoring, investigators specifically studied the safety and efficacy of palatal implants wherein the patients were followed up for one year. Under local anesthesia, their implants intended for permanent implantation were placed into the soft palate of each patient as close to the midline as possible. Postoperative snoring evaluated by the bed partner and daytime sleepiness evaluated by the patient were assessed as well. Snoring was reduced from 7.1 ± 1.9 on the apnea-hyperpnoea index to 4.2 ± 2.7 and daytime sleepiness dropped significantly from 2.8 ± 2.6 to finally 1.2 ± 1.2 . Furthermore all implants were placed without any complications or remarkable postoperative pain, though im-

plant extrusion were reported in ten patients. Perhaps a softer implant would be an alternative to reduce the extrusion rate. This session on sleep apnea had a jam-packed audience who listened to the presentations with keen interest.

Findings of genes for complex traits: On day two Neel distinguished research lecture was on "Finding genes for complex traits' Genomic analysis from cancer to Hearing Loss", by Mary Claire King Ph.D. American Cancer Research Society Professor of Genetics and Medicine at Washington University She is the first to prove that breast cancer is inherited in some families. Her other medical research interests include Genetic analysis of inherited deafness and Systemic lupus erythematosus. The whole thing Mary C. King stated started ten thousand years ago when humans migrated out of Africa when they had lived for five million years and maintained a more common genetic make up. That migration set into motion a genetic change; The development of a vast number of different alleles and different variations in the DNA reference each one of which expresses specific traits. When some traits are as simple as ear lobe size and configuration; other traits are much more troublesome, such as breast cancer or hearing loss. Most human traits are influenced by genetics. There are many different genes involved and even more alleles than there are genes. However not every one expresses a single allele in the same way because of genetic modifiers or non-genetic risk factors that come in to play as well. Environmental factors do matter. There are now as many people in the world as there are base pairs on a chromosome so that every variation that can occur happens in every generations. In other words, everything can go wrong. She specifically mentioned breast cancer because that is what much of her research in genetics has involved but she also discussed hearing loss because the two are more similar than one might expect. There are one thousand pathogenic mutations in each gene.

Speaking about the genetics of hearing loss, Neel the lecturer said that genetics of 400 hear-

ing loss syndromes have been largely defined, these genes are highly heterogeneous. Hearing loss may be carried on the gene in the X chromosome and may be mitochondrial. There are at least hundred genes for hearing loss and there are no other known abnormalities associated with these identified hearing loss genes.

The gene for non-syndromic hearing loss comes from different sources some of which include transcription factors, connexins, molecular motions, collagens and ion channels to name a few. Dr. King further stated that these localize in the hearing canal at many different sites. The connexin 26 gene is responsible for a large fraction of hearing loss. She pointed out that “anywhere from 30% to 50% of children with congenital hearing loss carry the connexin 26 gene.”

Paediatric Otolaryngology: The session on paediatric otolaryngology covered diverse topics which also attracted a large number of participants. Adeno-tonsillectomy it was stated improves but does not eliminate respiratory distress in children under three; co-ablation is a superb technique choice in tonsillectomy uses for the microdebrider is increasing. A number of hearing histopathological anomalies are found in children with congenital heart defects. These were among some of the conclusions reached during the presentations in this session on paediatric otolaryngology.

Sino-nasal tumours: Myer’s International lecture on Sino-nasal neoplasia was delivered by David John Howard Consultant Head and Neck surgeon from UK. Sino nasal tumours, he stated, are rare. These are terrible tumours which must be given their due importance; sobering issues accompany the removal of and follow-up of these tumors. Craniofacial resection is a gold standard now for removing tumours of nose and nasal sinuses. The craniofacial approach does not have a high morbidity. With craniofacial surgery, he observed a 100% improvement in the five-year survival at his institution. An increasingly popular option for treatment of sub mucosal tumours is the minimally invasive endoscopic surgery. Many Head and Neck surgeons’ start with the

endoscopic approach, then go on to craniofacial resection if more pronounced tumours require more aggressive removal techniques. Other surgical approaches include lateral rhinotomy, sub-rhinoectomy, craniotomies and mid facial degloving. He warned that “if you are doing endoscopic surgery make sure you get sufficient experience to do a thorough job in removing the tumours. Also make sure that you understand the tumours before removing it”, he added. Understanding these tumours require superb imaging and histopathology

In mid 1980s, the scan reading was 85.2% reliable as compared to CT scan vs histology but today the reliability is 98.3 on the scan with MRI/Gad DPTA vs histology. Nowhere else in body is there greater diversity in histopathology than in nose and para nasal sinuses. We cannot expect general pathologists in general hospitals to be expert at studying a vast variety of malignant pathology of the skull base. If you are involved with the work, it is advisable to double check pathology before undertaking interventional procedure, he stated.

Angiofibromas have been particularly known to have a high recurrence rate. In some medical circles angiofibromas are considered benign but Dr. Howard opined that this impression is debatable. Their recurrence can be deadly. He and his colleagues had reached a point where they saw too many recurrences. Howard made it his quest to find out why angiofibromas reappear which required understanding where these tumours originate. Good research evidence supports that they all occur at the sphenopalatinic foremen and 93% of recurrences take place with erosion present in the sphenoid.

When the tumours are removed and no redness is visible, it confirms total removal but still there might be some remnants left behind. Hence it is advisable to drill out the sphenoid meticulously. This can be done endoscopically but make sure you get every remnant. By diligently pursuing the remnants Dr. Howard and his colleagues have seen no recurrence at their institutions for five years.