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August 2021 | Volume 05
Surgery: Case Reports



2nd World Congress on

Otolaryngology and Wound Care

August 30, 2021



Hosting Organization: Pulsus

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Scientific Program

Scientific Program

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Opening Ceremony
09:00-09:10

Monday, August 30, 2021

Keynote Forum

09:10-09:50

Title: Challenges in the diagnosis and treatment of nasal valve compromise

J Madison Clark | University of North Carolina | USA

09:50-10:30

Title: Assessment of the transgender patient in otolaryngology and facial plastic surgery and primer on office-based management

Michael J Nuara | Virginia Mason Hospital and Seattle Medical Center | USA

10:30-11:10

Title: Liposuction only breast reduction and lift: Excellent results with low wound complication rates

A E Ingram | Ingram Cosmetic Surgery | USA

Networking & Refreshment Break 11:10-11:30

Sessions on: Ear Surgery and Myringotomy | Sinusitis | Tissue Regeneration | Surgical Wound Care | Wound Ulcers

Session Chair: **A E Ingram** | Ingram Cosmetic Surgery | USA

11:30-12:00

Title: New horizon for the middle ear surgery with regeneration of the tympanic membrane

Shin-ichi Kanemaru | Translational Research Center for Medical Innovation | Japan

12:00-12:30

Title: Clinical and economic burden of diabetic foot ulcers: A 5-year longitudinal multi-ethnic cohort study from the tropics

Zhiwen Joseph | Woodlands Health, National Healthcare Group | Singapore

12:30-13:00

Title: Effect of soft silicone foam dressings on intraoperatively acquired pressure injuries: A randomized study in patients undergoing spinal surgery

Tae-Yeong Yang | Samsung Medical certer | South Korea

13:00-13:30

Title: Adipose-derived stromal vascular fraction enhances cutaneous wound healing in an animal model

Eleni Karagergou | Papanikolaou General Hospital | Greece

Lunch Break 13:30-14:00

Session on: Plastic & Reconstructive Surgery | Laryngology | Otolaryngology | ENT Implants and its Application | Tinnitus

Session Chair: **Michael J Nuara** | Virginia Mason Franciscan Health Medical Center | USA

14:00-14:30

Title: Laryngeal function impairment - How can it be functionally restored? Understanding how laryngeal reinnervation works

Julie van Lith-Bijl | Flevo Hospital Almere | The Netherlands

14:30-15:00

Title: Vertical mandibular bone augmentation by the osteodistraction of the transplanted fibula free flap: A case series with long-term follow-up

Tamas Sass | Bacs Kiskun County Hospital | Hungary

15:00-15:30

Title: Immunological aspects of the use of low molecular weight hyaluronic acid in mesotherapy

Alexandra I Sergeeva | Rostov State Medical University | Russia

Young Researcher Forum

15:30-15:50

Title: The applicability of the tinnitus and hearing survey (THS) in the differentiation of tinnitus and hearing complaints

Amanda Rodrigues Scheffer | University of Sao Paulo | Brazil

Thanks Giving & Closing Ceremony

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Keynote Forum

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J Madison Clark[1] *and Robin W Lindsay*[2]

[1]University of North Carolina, USA
[2]Massachusetts Eye and Ear Infirmary, USA

Challenges in the diagnosis and treatment of nasal valve compromise

The treatment of nasal valve compromise (NVC) remains one of the most challenging aspects of rhinoplasty, and begins with accurate diagnosis. The authors' previously-published treatments, including well-known surgical innovations such as the Butterfly graft and PDS plating, have contributed to the various options for correction of NVC in rhinoplasty. This presentation will be targeted to the general otolaryngology audience, intended to help identify patients in whom septoplasty and turbinate reduction would be insufficient to treat their nasal airway obstruction (NAO). The superior/inferior corridor concept of the nasal airway will be reviewed, along with a description of the various options for treatment and where they fit in the NAO treatment paradigm.

Biography

Madison Clark, MD, FACS, is the professor and chief of the division of facial plastic and reconstructive surgery and director of the facial plastic and reconstructive surgery fellowship at the University of North Carolina, Chapel hill, NC, USA. He has over 40 publications, including one of the most accessed articles published in 2019 by laryngoscope-evolution of the butterfly graft technique: 15-Year of 500 Cases with expanding indications. His primary clinical and research interests are in surgical innovations in rhinoplasty, facial reconstruction and eyelid surgery.

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Michael J Nuara[1] and Marc Hohman[2,3]

[1]Virginia Mason Hospital and Seattle Medical Center, USA
[2]Uniformed Services University, USA
[3]Madigan Army Medical Center, USA

Assessment of the transgender patient in otolaryngology and facial plastic surgery and primer on office-based management

It is well established that gender dysphoria can be a significant source for emotional, psychological, and social distress. With regards to the latter, patients often experience uncomfortable mis-gendering or discrimination related to the outward presentation and expression of gender. There are some obvious and some more subtle differences between the male and female facial structure and appearance that can contribute significantly to dysphoria and, ultimately, the experience of distress. Furthermore, there is substantial variation in deviation from the cis-norms; and similar variation in tolerance to or desire for invasive procedures. Intervention: We will discuss both facility related considerations and clinical practice guidelines for the appropriate evaluation and management of the transgender patient as it pertains to otolaryngology and facial plastic surgery. Normative data is presented regarding the sexual dimorphism of the facial structure, and implications for clinical practice. In addition, minimally invasive approaches are presented that may be applied in select patients.

System	Decision effect
• Hair loss/gain	• Forehead incision, hair treatments
• Dermatologic	• Skin regimen, acne management
• Musculoskeletal	• TMJ/Headache management
• Weight changes	• Fat transfer?
• Vision (dry eyes, visual fields)	• Brow/lid procedures
• Voice	• SLP referral
• Respiratory (sleep/allergies)	• Functional rhino?
• Cardiac/Renal/Liver	• Stage surgery?
• Endocrine (androgen control)	• Delay? Refer for orchiectomy?
• Psycho/social	• Surgical aftercare

Table 1: Review of systems examples and potential effect on clinical decision making in gender affirming Oto-HNS consultation

Biography

Nuara has expertise in all aspects of facial plastic and reconstructive surgery. His research is focused on the communication patterns and life experience of patients experiencing gender dysphoria as well as surgical approaches to gender affirmation facial surgery. He serves as the medical director for the transgender service line at Virginia Mason Franciscan Health Medical Center in Seattle (USA), in addition to his role in direct patient care. Findings from his research include characterization of the differences between male and female face, communication barriers in the transgender patient, and innovative techniques in facial surgery.

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A E Ingram

Ingram Cosmetic Surgery, USA

Liposuction only breast reduction and lift: Excellent results with low wound complication rates

The best way to treat a wound is to prevent its occurring. Each year in the United States more than 250,000 women undergo breast lift or reduction surgery, most commonly using excisional techniques, which studies have shown are associated with up to fifty percent minor complication rates (wound dehiscence or superficial infection) and as much as five percent major complication rates (major skin loss, areolar loss, nipple loss). Treating these complications can require intensive wound care, skin grafts, or even reconstructive surgery involving multiple procedures and the transfer of tissues from remote areas.

This presentation illustrates the safety and efficacy of liposuction-only breast reduction and mastopexy. Although these procedures were reported over twenty years ago, they still comprise a small minority of breast reduction and breast lift procedures, possibly due to insurance compensation requirements in the United States.

A meta-analysis of the available literature, including our original data regarding laser-assisted liposuction used for mastopexy, indicates that liposuction alone for breast reduction and lift is in many ways superior to the traditional and more common excisional procedures. Liposuction provides consistently lower complication rates, faster recovery, fewer postoperative visits, no skin loss, no nipple loss, and allows these procedures to be performed on smokers, diabetics, and patients who may not be able to tolerate the longer and more complicated traditional procedures. Surgeons who are not trained in plastic surgery can learn these techniques in a short time and thereby can offer their patients relief from the neurological and orthopedic sequelae of hypermastia.

Biography

Ingram is double board certified in cosmetic surgery and facial cosmetic surgery. He is a graduate of Yale University, where he received a degree in mathematics and philosophy, summa cum laude, while completing a premedical curriculum. At Yale, he was a member of Phi Beta Kappa, was a National Merit Scholar, and was a William Randolph Hearst Foundation Scholar. Ingram began his medical career at the University of Texas Southwestern Medical Center in Dallas, where he was a Southwestern Medical Foundation Scholar throughout medical school. On graduation from medical school, he was one of three students in the country who “matched” straight into plastic surgery directly out of medical school that yea. He completed his plastic surgery residency at UT Southwestern, currently the number one ranked program in the United States, in 1995. He continued his studies at the clinic of Ivo Pitanguy, the father of modern cosmetic surgery and inventor of the Brazilian Butt Lift, in Rio de Janeiro prior to studying craniofacial surgery at the University of Paris, Creteil, France, where he worked under Laurent Lantieri, the first surgeon to perform a complete facial transplant.

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Scientific Tracks & Abstracts

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Sessions on

Ear Surgery and Myringotomy | Sinusitis | Tissue Regeneration | Surgical Wound Care | Wound Ulcers

Session Chair
A E Ingram
Ingram Cosmetic Surgery | USA

Session Introduction

Title: **New horizon for the middle ear surgery with regeneration of the tympanic membrane**

Shin-ichi Kanemaru | Translational Research Center for Medical Innovation | Japan

Title: **Clinical and economic burden of diabetic foot ulcers: A 5-year longitudinal multi-ethnic cohort study from the tropics**

Zhiwen Joseph | Woodlands Health, National Healthcare Group | Singapore

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New horizon for the middle ear surgery with regeneration of the tympanic membrane

Shin-ichi Kanemaru[1] and **Rie Kanai**[2]
[1]Translational Research Center for Medical Innovation, Japan
[2]Foundation for Biomedical Research and Innovation, Japan

Recent progress in regenerative medicine has provided us with various scaffolds and growth factors that make it possible to accelerate tissue repair. Applying modern *in situ* tissue engineering principles, we developed a new regenerative treatment for tympanic membrane (TM) perforation using a combination of basic fibroblast growth factor (b-FGF), gelatin sponge, and fibrin glue without the need for conventional surgical procedures and cell transplantation. There are numerous advantages to this regenerative treatment. Skin incisions and harvesting of autologous tissues are not required. It is possible to regenerate normal TM morphology fully. High success/cure rates and ideal hearing improvements are possible. It can be performed within 20 minutes and is a simple, easy outpatient procedure.

This regenerative treatment for the TM perforation was approved in November 2019 by the National Health Insurance in Japan. Before the approval, Retympa® (Norvel Pharma Inc., Tokyo, Japan), a specialized medicine for TM perforation, received pharmaceutical approval in Japan.

We have been limited the adaptation of this treatment to patients with dry and no active inflammation in the TM and the tympanic cavity. In addition, temporal bone CTs were analyzed to ensure that all patients had proper aeration in the mastoid and tympanic cavities before treatment. We also initially selected patients without cholesteatomas or tumors in the tympanic cavity and no severe calcification/osseous metaplasia of the TM. However, to expand its adaptation, we attempted to apply this treatment to patients with the above lesions localized to the tympanic cavity by an endoscope.

This new regenerative therapy is useful not only for patients with simple TM perforations but also for some patients who need tympanoplasty. This innovative regenerative therapy that is an easy, safe, cost-effective, and minimally-invasive treatment will open the new horizon of middle ear surgery.

Biography

Shin-ichi Kanemaru graduated from Kyoto University, he worked in the Department of Otolaryngology of Osaka Red Cross Hospital and Kitano hospital. While he worked in Kyoto University Hospital as an assistant professor, he went abroad to London Tissue Repair and Engineering Center and got PhD in the study of regeneration of larynx at Kyoto University. At present, he takes up chief director of the Hearing Disturbance and Tympanic Membrane Regeneration Center in Kitano hospital, clinical professor in Kyoto University and concurrently serve as researcher in Translational Research Center for Medical Innovation, Foundation for Biomedical Research and Innovation, Kobe, Japan. My field of subspecialty is middle ear, inner ear, and skull base surgery and regenerative medicine in the field of head and neck. Regenerative treatment of tympanic membrane has been covered by National Health Insurance in Japan from 2019. I'm going to spread this treatment all over the world, especially, developing countries.

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Clinical and economic burden of diabetic foot ulcers: A 5-year longitudinal multi-ethnic cohort study from the tropics

Zhiwen Joseph
Woodlands Health, National Healthcare Group, Singapore

Diabetic foot ulcers (DFUs) present a substantial clinical and economic burden to healthcare systems around the world, with significant reductions in quality of life for those affected. We aimed to analyse the clinical and economic burden of DFU via a 5-year longitudinal multi-ethnic cohort study. A longitudinal analysis of inpatient and outpatient DFUs data over 5 years from a university tertiary hospital in Singapore was performed. Data included baseline characteristics, clinical outcomes, hospitalisation, and outpatient details. Descriptive statistics, Kaplan–Meier survival analyses, and Cox proportional hazard models were per- formed. Patients treated for DFUs (n = 1729, mean patient age of 634 years) were assessed. The cohort consists of Chinese (61.4%), Malay (13.5%), and Indian (18.4%) patients. Common comorbidities included peripheral arterial disease (74.8%), peripheral neuropathy (14.5%), and a median haemoglobin A1c of 9.9%. Patients underwent toe(s) amputation (36.4%), transmetatarsal amputations (16.9%), or major amputations (65%). The mean length of inpatient stay for ulcer-only, minor amputation, and major amputation was 13.3, 20.5, and 59.6 days, respectively. Mean cost per patient-year was US$3,368 (ulcer-only), US$10,468 (minor amputation), and US$30,131 (major amputation). Minor amputation-free survival was 80.9% at 1 year and 56.9% at 5 years, while major amputation-free survival was 97.4% at 1 year and 91.0% at 5 years. In conclusion, within our multi-ethnic cohort of patients from the tropics, there was significant clinical and economic burden of DFUs, with a high wound per patient ratio and escalating healthcare costs corresponding to more proximal amputation levels.

Biography

Zhiwen Joseph completed his general surgical training as the inaugural resident at NHG-AHPL General Surgery Residency Program and as the inaugural president of the residents' council, Joseph completed his vascular and endovascular fellowships at Tan Tock Seng Hospital (Singapore), Leeds General Infirmary (UK) and St Thomas Hospital (UK), including a visiting fellowship at Kings College Hospital Diabetic Foot Clinic (UK). He is currently an NHG-LKC clinician-scientist fellow and is active in vascular research, with research interests in wound care, diabetic limb salvage, artificial intelligence, and health economics. To date, he has received more than $3,500,000 in research grants and co-authored more than 40 publications. He had been awarded the Society of Vascular Surgery International Scholars Program and NMRC Research Training Fellowship in 2020. Joseph is passionate about health systems innovation and multi-disciplinary holistic approach in diabetic limb salvage.

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August 30, 2021

Effect of soft silicone foam dressings on intraoperatively acquired pressure injuries: A randomized study in patients undergoing spinal surgery

Tae-Yeong Yang[1], **KangBuk**[1] and **Sung Hee Shin**[2]
[1]Samsung Medical certer, South Korea
[2]Kyung Hee University, South Korea

The use of prophylactic dressings to help prevent intraoperatively acquired pressure injuries (IAPIs) merits further study.

Purpose: To examine how the use of a soft silicone foam dressing affects the development of IAPIs in patients undergoing spinal surgery to obtain baseline data supporting evidence-based nursing care.

Methods: Using a self-controlled study design, 64 patients requiring thoracic or lumbar surgery on a Wilson frame at a hospital in Seoul, South Korea, were recruited between February 12 and September 1, 2018; 50 patients were eligible. Basic demographic, health, and surgical data were obtained. Before surgery, the left or right-side chest and iliac crest area were randomly assigned to be covered with a soft silicone foam dressing. The areas were assessed at 2 time points: immediately after and 30 minutes after surgery.

Result: The majority of participants were male (26, 52%). Average patient age was 62.54 (± 13.83) years. Average length of surgery was 218.4 (± 137 minutes). Immediately after surgery, 26 IAPIs were observed and there was a significant difference between dressed and non-dressed chest areas for number of IAPIs (4% vs. 28%; P = .002). After 30 minutes, the total number of IAPIs was 20 and the difference between IAPIs in the iliac crest area was significant between dressed and non-dressed areas (0% vs. 14%; P= 0.012). After 1 week, there were no chest or iliac crest IAPIs in the areas that had been covered by a dressing; 8(61.5%) chest and 4(30.8%) iliac crest area IAPIs remained when no dressing had been applied. The majority of IAPIs were stage 1 at all assessment times.

Conclusions: The results of this study show that many stage 1 IAPIs do resolve over time and that use of soft silicone foam dressings during spinal surgery can significantly reduce IAPI rates.

Table 3. Presence of a pressure injury immediately following surgery (N = 50)

	Experimental area	Control area	χ^2	*P* value
	No. (%)	No. (%)		
Chest (n = 100)[a]				
IAPIs - yes	2 (4.0)	14 (28.0)	10.71	.002
IAPIs - no	48 (96.0)	36 (72.0)		
Iliac crest (n = 100)[b]				
IAPIs - yes	0 (0)	10 (20.0)	11.11	.001
IAPIs - no	50 (100)	40 (80.0)		

IAPIs, Intraoperatively acquired pressure injuries.
[a]The chest area of 50 participants was divided left and right into the experimental area and the control area; these were marked as 100 sites.
[b]The iliac area of 50 participants was divided left and right into the experimental area and the control area; these were marked as 100 sites.

Biography

Tae-Yeong Yang is a nurse who cares for neurosurgery patients at Kangbuk Samsung Medical Center in Seoul, Korea. As a nursing clinician, he is currently pursuing a doctoral course at Kyung Hee University's College of Nursing Science for in-depth nursing research. He is interested in preventive care and methods to reduce secondary complications that patients experience in hospitals.

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Adipose-derived stromal vascular fraction enhances cutaneous wound healing in an animal model

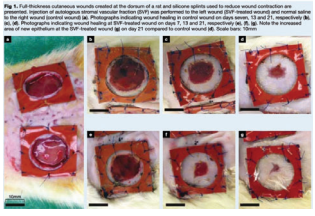
Eleni Karagergou
Papanikolaou General Hospital, Greece

Introduction: Limited data exist regarding the correlation between adipose-derived stromal vascular fraction (SVF) and wound healing. The aim of this study was to investigate the direct effect of intradermally injected SVF on full-thickness cutaneous wounds in a murine model.

Materials and Methods: Wistar rats were divided into four groups (A, B, C and D) according to their day of euthanasia (day 3, 7, 16 and 21). Inguinal fat pad was excised and SVF enzymatically extracted. Full-thickness cutaneous wounds were created on each side of the dorsum; SVF injected intradermally at one side while the contralateral wound served as control receiving normal saline. Postoperatively, evaluation of wound healing was performed by planimetry (percentages of wound contraction, epithelialisation and total wound healing) on days 0, 3, 5, 7, 10, 13, 16 and 21, and histology and immunochemistry (cellular infiltration score, collagen production score, neoangiogenesis and epithelial thickness) on days 3, 7, 16 and 21. Additionally, measurement of the growth factors VEGF-A, PDGF and TGF-β1 was performed by RT-PCR, following m-RNA isolation from tissue samples.

Results: Despite the high rate of wound contraction, it was significantly lower in the SVF-treated wounds on day 21 (p=0.037). On days 13, 16 and 21, the percentages of epithelialisation were higher in the SVF-treated wounds (p=0.026, p=0.048 and p=0.05, respectively). Histologically, the number of new vessels was significantly higher in the SVF-treated wounds compared with controls on days seven (p=0.028) and 16 (p=0.027). This increased angiogenesis was also confirmed by immunohistochemistry and by increased expression of the angiogenic growth factor VEGF-A which was observed in treated wounds compared to control wounds on day 3. No significant differences were found between treated and control wounds regarding cellular infiltration score, collagen production score and epithelial thickness.

Conclusions: Data indicate that intradermally injected SVF increases angiogenesis and enhances epithelialisation in full-thickness cutaneous wounds in rats.



Biography

Eleni Karagergou was born in Thessaloniki and graduated from Medical School of Democritus University of Thrace. She was specialized in plastic and reconstructive surgery in United Kingdom, and she is a member of Royal College of Surgeons of Edinburgh (MRCSEd). Her PhD thesis was on adipose stem cells, and she is a fellow of the European Board of Plastic Reconstructive and Aesthetic Surgery. She is currently working as a consultant plastic surgeon at Papanikolaou General Hospital in Thessaloniki, Greece, and she has a special interest in regenerative medicine and adipose derived regenerative therapies.

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Sessions on

Plastic & Reconstructive Surgery | Laryngology | Otolaryngology | ENT Implants and its Application | Tinnitus

Session Chair
Michael J Nuara
Virginia Mason Hospital and Seattle Medical Center | USA

Session Introduction

Title: **Laryngeal function impairment - How can it be functionally restored? Understanding how laryngeal reinnervation works**

Julie van Lith-Bijl | Flevo Hospital Almere | The Netherlands

Title: **Vertical mandibular bone augmentation by the osteodistraction of the transplanted fibula free flap: A case series with long-term follow-up**

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Laryngeal function impairment - How can it be functionally restored? Understanding how laryngeal reinnervation works

Julie van Lith-Bijl
Flevo Hospital Almere, The Netherlands

Injury to the RLN can result in impairment of all three laryngeal functions. The RLN is capable of regeneration but laryngeal functions in cases of severe injury remain impaired. This permanent impairment is caused by either incomplete regeneration and /or occurrence of laryngeal synkinesis.

Laryngeal reinnervation can be approached either non-selectively, focusing on nerve reconstruction or selectively, focusing on separate target muscle reinnervation. Nonselective reinnervation comprises anastomosis to the mainstem of the RLN leading to reinnervation of both abductor and adductor muscle groups (nerve-based reconstruction). In selective reinnervation abductor and/or adductor muscles are separately reinnervated (function-based reconstruction).

A review of laryngeal reinnervation techniques, results in animal models and the results achieved in patients is given. The clinical implications of reinnervation in unilateral as opposed to bilateral vocal fold paralysis are considered.

For unilateral vocal fold paralysis, non-selective reinnervation good voice results can be achieved. It has the advantage that no foreign materials need to be implanted and may also be used in a growing larynx in the case of children or adolescents. For bilateral vocal fold paralysis good functional results, recovery of airway as well as voice, can be achieved with selective (or function-based) reinnervation.

Biography

Julie van Lith is the director of Laryngology of The voice and Swallowing Centre in Almere, The Netherlands and has worked in the Department of Laryngology in Clinique Universitaires Saint-luc, Brussels, Belgium. She has a special interest in laryngeal nerve re-innervation. She is a member of the European Laryngological Society and is acitve in the international arena lecturing on neurolaryngology.

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Vertical mandibular bone augmentation by the osteodistraction of the transplanted fibula free flap: A case series with long-term follow-up

Tamas Sass
Bacs Kiskun County Hospital, Hungary

We present a case series, short-, medium- and long-term outcomes to demonstrate the long-term reliability of fibula free flap with secondary distraction of the flap for the purposes of dental rehabilitation with implant therapy. The approach is known and widely applied, but long-term reports with both hard- and soft tissue outcomes are rare. Function and esthetics are considered, focusing both on the hard and the soft tissues. Annually, an average of 15 mandible reconstruction surgeries are performed in our practice with the fibula free flap approach. Approximately every other patient receives full mouth rehabilitation with implant-retained restorations following mandibular reconstruction. Four cases are presented. In all the presented cases, the reconstructed mandibular segment was longer than 11 cm. Therefore, the duplication of the fibula free flap, the "double barrel technique" was not possible at the time of the primary surgery. In all four cases, the outcomes suggest that in the case of large mandible defects, fibula free flap with secondary distraction of the flap is a safe and reliable approach to the surgical rehabilitation of the atrophic alveolar ridge prior to dental implant therapy. In all cases, the method yielded lastingly favorable outcomes, both functionally and esthetically.

Biography

Tamas Sass graduated in 2002 from the Faculty of Dentistry of Semmelweis University of Medicine. After graduating from university, he worked as a resident at the Central Institute of Dentistry from 2002-04 and then took a professional exam in October 2004 and became a specialist in dental and oral diseases. From 2004-06 he worked in the Department of Maxillofacial and Oral Surgery of St. Roch's Hospital. Since 2007 he has been employed by the Department of Maxillofacial and Oral Surgery of Kecskemet County Hospital. In January 2007, became a specialist in dentoalveolar oral surgery and have been a member of the medical team of the Uniklinik Zuglo Dental Center since November 2004. In 2012, he earned his second degree from the Faculty of General Medicine at Semmelweis University of Medicine. In 2015, became a specialist in maxillofacial surgery and in 2016, he was appointed as chief physician in the Department of Maxillofacial and Oral Surgery of Kecskemet County Hospital. He is a member of the Hungarian Medical Chamber and the Hungarian Society of Facial, Maxillofacial and Oral Surgery.

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Immunological aspects of the use of low molecular weight hyaluronic acid in mesotherapy

Alexandra I Sergeeva and **Lyudmila P Sizyakina**
Rostov State Medical University, Russia

Mesotherapeutic procedures with hyaluronic acid have become more popular. We observed 50 subjects who had this procedure for the first time, and who were assessed before, after, in 3 and 6 months after the course. Mesotherapy was carried out in a course of 5 procedures with an interval of 14 days.

We studied the determination of the expression of CD3, 4, 8, 16, 19, 25, 95 lymphocytes, the intracellular content of FoxP3 and granzyme B, the expression of TLR2, TLR4, TLR9 on peripheral blood monocytes. The oxygen-dependent metabolic activity of neutrophils was assessed in the NBT test, the level of IgA, IgM, IgG, the level of IgE, as well as total bilirubin, alkaline phosphatase, aspartate aminotransferase, alanine aminotransferase, total protein, thyroid hormones.

After the course the dermatological index showed changes for the better in the quality of life, objective clinical data as well as dermatoscopy revealed improvements in the skin condition.

Immunological indicators: the processes of maturation and cytotoxicity of T- effectors are enhanced with inhibition of the microbicidal activity of neutrophils, a tendency towards a decrease in the helper activity of lymphocytes, the processes of early activation increase. The endocrine system: a decrease in TSH. Hepatocytes: a decrease in the content of total bilirubin, transaminases, alkaline phosphatase.

After 3 months: functioning of the immune system - a restoration of the adaptive reserves of neutrophils; an increase in the helper function of lymphocytes, normalization of the immune-regulatory index, a moderate decrease in the content of T-regulatory lymphocytes with suppressive effects. Liver, endocrine system, emotional state - no changes.

After 6 months: an increase in the number of lymphocytes with helper activity with a simultaneous inhibition of the cytotoxic effect, and an increase in the functional activity of neutrophils with a decrease in the adaptive reserves of neutrophils.

Liver, endocrine system, emotional state - no changes.

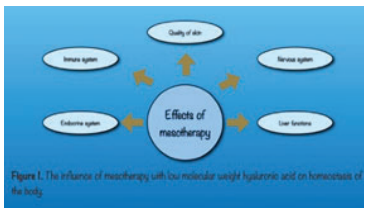


Figure 1. The influence of mesotherapy with low molecular weight hyaluronic acid on homeostasis of the body.

Biography

Alexandra Sergeeva is an experienced specialist with excellent knowledge of cutting-edge technologies in modern dermatology and cosmetology. She is an expert in such areas as various facial procedures, mesotherapy, thread lifting, face contouring, laser, botulotoxin, IPL therapy and many others. Her desire to master the skills constantly has led to becoming a certified GP with aesthetic privilege in one of the most famous clinics in the UAE. In particular, she is eager to research the influence of injection procedures in cosmetology on functioning of the immune system.

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The applicability of the tinnitus and hearing survey (THS) in the differentiation of tinnitus and hearing complaints

Amanda Rodrigues Scheffer, Maria Carolina Ferreira and **Maria Fernanda Capoani Garcia Mondell**
University of Sao Paulo, Brazil

Purpose: to verify the applicability of tinnitus and hearing survey (THS) to measure and differentiate complaints of tinnitus, hearing loss and sound tolerance. Methods: THS was performed, composed by 4 questions about tinnitus, 4 about hearing loss and one about sound tolerance. Previously, all participants performed a battery of audiological diagnostic tests and then divided into 4 groups: Bilateral normal audiometry with mean up to 25dB, with and without tinnitus complaint (Groups 1 and 3); diagnosis of mild to moderate neural sensory hearing loss (26dB to 60dB), no previous use of individual hearing aids, complaining of chronic tinnitus (≥6 months) and, individuals without tinnitus complaints (Groups 2 and 4); and age ≥18 years old. Results: Seventy subjects were included in this study. Regarding the analysis of the total between the groups by the Kruskal-Wallis test, significant differences were found in sections about tinnitus and hearing Loss, but there was no significance in section of sound tolerance. Regarding the questions in Section A of the THS, only groups 3 and 4 scored. Regarding the questions related to section B about hearing loss, the groups without hearing loss (groups 1 and 3) scored the lowest. In relation to the question of THS of section C, group 3 scored the highest. Conclusions: The THS questionnaire proved to be a useful, quick, and simple tool to assist the audiologist in the understanding and differentiation of the audiologic complaints.

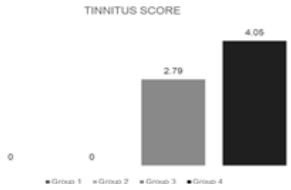


Figure 1- Representative graph of the average of the answers to the questions about tinnitus of the THS among the 4 groups.

Caption: Group 1 = no tinnitus and no hearing loss; Group 2 = with hearing loss and without tinnitus; Group 3 = no hearing loss and tinnitus; Group 4 = with hearing loss and tinnitus; Kruskal-Wallis ($p < 0.05$) *.

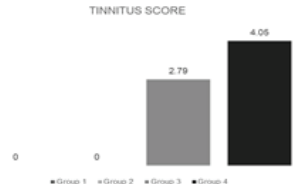


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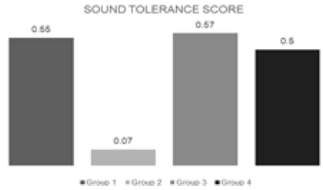


Figure 3- Representative graph of the average of the answers to the question about THS sound tolerance among the 4 groups.

Caption: Group 1 = no tinnitus and no hearing loss; Group 2 = with hearing loss and without tinnitus; Group 3 = no hearing loss and tinnitus; Group 4 = with hearing loss and tinnitus; Kruskal-Wallis ($p < 0.05$) *.

Biography

Amanda Rodrigues Scheffer is the faculty of the University of Sao Paulo (USP) and also the faculty of Dentistry of Bauru. She has done her postgraduate program in audiology and speech therapy from Bauru, Brazil. The major objective of her survey was to verify the applicability of THS to measure and differentiate complaints of tinnitus, hearing loss, and sound tolerance.

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e-Poster

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The Role of auditory Neuropathy in the hearing impairment in patients with arterial Hypertension

Lisotskaya V V
The Republican Center for Research and Practice in Otolaryngology, Belarus

Introduction: Pure tone audiometry is an insensible method for hearing examination in patients with arterial hypertension. What necessitates the search for the diagnostic of the level of hearing disorders.

Objective: 35 patients with low-risk primary hypertension with normal hearing threshold and 35 healthy patients studied at audiology department of the "The Republican Center for Research and Practice in Otolaryngology", from 2018 to 2020 year.

The aim: To determine the topographic and functional level of damage of the hearing organ in patients with arterial hypertension.

The methodology: mathematical statistics, student t-test, Fisher test. All patients underwent DPOAE, TEOAE, tympanometry, acoustic reflexometry, auditory brainstem response, high-frequency audiometry, speech intelligibility tests.

The results: The study involved 70 individuals an equal men (N=38) and women (N=32) in the middle age at 35,31 ± 10 years (95% CI 18-55 years). All patients (N=70) were divided into 2 groups: 1 group (experience) – patients with hypertension, 2 group (control) –patients without hypertension. The experience group patients showed lower results by passing DPOAE. It was significantly revealed an elongation of the interval I-V with an increase in the amplitude and the latency of the wave I in the first group. Monosyllabic speech intelligibility test, Rapidly alternating speech perception test were 65±5% (t≥ 0,95) with an extremely low percentage of passing digital dichotic tests- 25±5% (t≥ 0,95) in patients of the first group.

Conclusion: Arterial hypertension causes damage to the hearing organ at the central and peripheral levels. Auditory synaptopathy leads in the hearing impairment in patients with primary arterial hypertension. Speech intelligibility tests and dichotic digits test should be used for diagnosing hearing impairment in addition to the standard battery tests.

Biography

Lisotskaya V has expertised in evaluation and rehabilitation patients with hearing impairment, her concept of a personified approach in the diagnosis, treatment and rehabilitation of patients with hidden hearing loss, tinnitus is a new direction in the healthcare. she has built this model after years of experience in research, evaluation, teaching and administration both in hospital and education institutions. this approach is responsive to all stakeholders and has a different way of focusing.

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Recurrent paralysis of the facial nerve with sigmoid sinus thrombosis

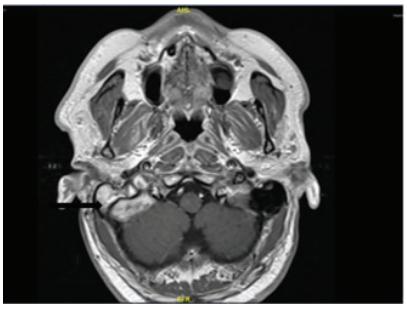
Mohamed Khamis Tolba Mahmoud Abdalla
Nation Guard Hospital, Saudi Arabia

This article presents a case with a history of 6 attacks of alternating facial palsy over the past 24 years. The patient presented to our clinic with left-sided facial paralysis associated with extensive thrombosis of the right sigmoid sinus and proximal jugular vein.

Case presentation: A 46-year male patient presented with a four-day history of sudden onset grade VI left facial nerve paralysis with a history of 5 distinct episodes on both sides. No abnormalities were discovered by general and local examination but left facial paralysis. MRI and CT venogram revealed a thrombus involving the right transverse sinus's distal aspect extending to the right sigmoid sinus and proximal jugular vein.

Management and Outcome: The condition improved entirely after four weeks with steroids.

Discussion: Recurrent facial palsy accounting for 5.7–11.9% of all acute facial palsy cases; several disease entities may be responsible for that condition.



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Endoscope-assisted cochlear implantation: A case report with a focus on history and comparison of different surgical techniques

Jeyanthi Kulasegarah, Jasintha Vani Raja Sekaran and **Prepageran Narayanan**
University of Malaya, Malaysia

Cochlear implant (CI) is a surgically implanted neuroprosthesis. The electrodes are directly inserted into scala tympani for patients with sensorineural hearing loss to bypass the usual acoustic stimulation to stimulate the auditory nerve directly. In the effort to avoid mastoidectomy and to embrace minimally invasive surgery, multiple alternative surgical techniques for CI have been described over the years, with endoscope-assisted implantation as one of the latest advancements. Dr. Muaaz Tarabichi, an otorhinolaryngologist in Dubai, popularised endoscope-assisted ear surgery. He published his first paper in 1997, which described the use of endoscopes in managing middle ear cholesteatoma. Currently, rigid endoscope-guided middle ear surgery has gained popularity for cholesteatoma removal and other middle ear surgeries such as stapes surgery, myringoplasty, tympanoplasty, and even cochlear implantation. This paper aims to discuss endoscope-assisted cochlear implantation techniques and discuss their advantages and drawbacks. We describe a case of a 7-year-old boy with post-lingual profound sensorineural deafness who underwent endoscope assisted CI in our centre.

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Islanded pedicled nasolabial flap in head and neck reconstruction

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Statement of the problem: Reconstruction of head neck cancer ablative defects is challenging. The primary aims of reconstruction are to maintain or recreate functionality with acceptable cosmetic outcomes. Free flaps are the preferred reconstructive armamentarium in most centers although they have certain limitations. Local flaps provide a good reconstructive alternative in select situations. Random nasolabial flap (NLF) has been in common use for oral cancer ablative defect reconstruction. A modification of the nasolabial flap (islanded pedicled nasolabial flap-ipNLF) is an easy and reliable option for reconstruction of small to medium sized defects of the head and neck.

Methodology: We present the retrospective analysis of 27 consecutive patients reconstructed with ipNLF at two high volume Indian cancer centers. The functional outcomes measured were duration of weaning of feeding and tracheotomy tubes and speech assessment [speech intelligible rating score (SIR)] post surgery. Complications assessed were flap loss, oro-cutaneous fistula, donor site wound dehiscence, oral incompetence and angle of mouth deviation.

Findings: Most common ablative defect was of the oral cavity (22 patients) followed by oropharynx (4 patients) and hypopharynx (1 patient). The mean operating time for flap harvesting and insetting was 57.7 minutes. The mean durations for post operative feeding tube and tracheotomy removal were 10 and 5 days respectively. Twenty four subjects had SIR scores of I or II. None of the subjects had flap loss, oro cutaneous fistula or donor site wound dehiscence. Twenty five subjects had no oral incompetence and 26 had no or minimal angle of mouth deviation.

Conclusion: This is the largest series of ipNLF till date and emphasizes on the versatility, reliability, reproducibility and excellent functional and acceptable cosmetic outcomes of this flap for reconstruction of judiciously chosen head and neck ablative defects.

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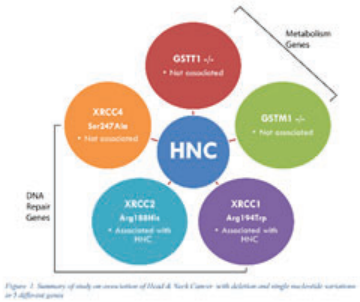
Association of metabolism and DNA repair genes with head & neck cancer (HNC) patients from southern Punjab, Pakistan

Zureesha Sajid
Institute of Molecular Biology and Biotechnology (IMBB), Pakistan

Statement of Problem: Head and neck cancers (HNCs) are cataloged among the top ten malignancies worldwide. HNC is further divided into cancers of oral cavity, tongue, cheeks, lips, larynx, upper aero-digestive tract, eyes etc. In addition to epidemiological factors, genetics play a very important role in rendering a person immune or prone to carcinomas. Two important families of genes in this regard are CYP family (coding enzymes that metabolize potential carcinogens) and DNA repair genes (which prohibit and proofread errors in DNA replication).

Methodology: A case control study was conducted comprising of 100 controls and 135 HNC patients of different age groups to check the association and prevalence of polymorphisms in GSTT1, GSTM1, XRCC1, XRCC2 & XRCC4. A detailed questionnaire was filled by all study subjects followed by the collection of blood samples for DNA extraction. GSTT1 and GSTM1 deletion polymorphism was detected using multiplex PCR to illustrate presence or absence of the gene and the TETRA-primer ARMS PCR assay was developed for rapid determination of SNVs in XRCC1 codon 194, XRCC2 codon 188 and XRCC4 codon 247.

Findings: GSTT1 and GSTM1 individual null genotypes have no significant association with HNC while significant positive association has been seen in incidences of GSTT1/GSTM1 simultaneous double deletion. XRCC1 Arg194Trp analysis showed that mutant allele has a protective role while wild type allele is associated with HNC. In case of XRCC2 Arg188His; wild type allele is found to be more frequent in controls while mutant allele was prominent in patients. No allele of XRCC4 Ser247Ala showed any significant association with HNC. We suppose that our data will serve as a fundamental record for the forthcoming clinical and genetic studies related to variability in the response or toxicity to xenobiotics/drugs known to be substrates of glutathione-S-transferases as well as DNA damages.



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Wound Care Nutrition

Prakash Kondekar
Indian Institute of Naturopathy, India

Pandemic, COVID-19, has been teaching us many lessons, one of which is a wound care Nutrition. Wound is responsible for Pain which is one of the important reasons for existence of medicine, nutritionist, and doctors. It is recognised that the aggravation of pain varies from person to person, due to difference in severity of wound. In some persons pain sensation may be irritative but in others may be un-bearable. The nerve sensors play a major role in pain. First action therapist has to take relates to right nutrition so as to bring the body to alkalinity. RICE is often the first step in relieving any pain, due to wound.

Wound caused during sports has to be taken care immediately so as to resume the play. Here, Liquid Nutrition like juices or syrups are very useful. Obtaining a history of a wound with pain characterization as acute, sub-acute or chronic etc. It can be done with physical examination like temperature, pulse, blood pressure, respiration, weight loss or mental status examination which may demonstrate confusion. Vitamin E has good role to play in many types of wounds, to soak up excess free radicals.

Vitamin-E may in the form of sprouts, soyabean milk, vegetable juice or wheat germ oil. Curcumin can be very good wound healer and pain reliever. Fruits like, cherries, strawberries and blueberries are also in that category of pain reliever. Thus, wound care nutrition is useful in any pain which should not be killed with the help of drugs/chemicals but can be relieved with help of various fruits, vegetables and nutritious foods if taken in appropriate proportions.

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Accelerated antibacterial and wound healing activity in full thickness chronic wounds by iodine loaded chitosan encapsulated graphene oxide nanocomposite

Priyanka Chhabra[1] and **Amit Tyagi**[2]
[1]Galgotias University, India
[2]DRDO, India

Nanotechnology has emerged as a novel innovation of the century in different areas of science. The development of different types of nanocarriers offers novel approaches to delivering active drug at the site of injury in a sustained and effective manner which could significantly enhance the wound healing potential of chronic wounds. Given that, the goal of the present study is to develop nanocomposite based on chitosan, graphene oxide, and iodine as an antimicrobial agent for rapid wound healing. The prepared iodine loaded chitosan encapsulated graphene nanocomposites (I-CH-G) were characterized using different techniques, such as SEM, FTIR, AFM, particle size analysis and zeta potential measurement. The average diameter of I-CH-G nanocomposite was found to be 370±1.2 nm and showed sustained release behavior. The optimized I-CH-G nanocomposite was incorporated into carbopol gel and evaluated for drug content, pH, *in vitro* release, texture analysis, and viscosity. In addition to that, they were also evaluated for their antimicrobial activity against *Staphylococcus aureus, Pseudomonas aeruginosa* and *Escherichia coli*. Further, these nanoparticles were evaluated *in- vivo* for wound healing efficacy in Sprague Dawley rats. Histopathological evaluations demonstrated that I-CH-G-NPOs showed significantly enhanced wound contraction, enhanced cell adhesion, epithelial migration, and high hydroxyproline content leading to faster and more efficient collagen synthesis as compared to plain carbopol, plain iodine and controls. Hence the topical administration of fabricated I-CH-G-nanocomposites appears to be an interesting and suitable strategy for the treatment of chronic wounds.

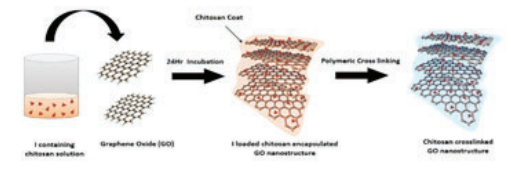


Figure1: Formation of iodine loaded chitosan encapsulated graphene oxide nanocomposite (I-CH-G).

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Preclinical assessment of stem of *Nicotiana tabacum* on excision wound model

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Amity University, India

Agro-waste material derived from *N. tabacum* has shown enormous potential antioxidant and antimicrobial activity. Hence in the present study, we investigated the wound healing efficacy of ethanolic extract of stem of *Nicotiana tabacum* on Wistar rat model. Ethanolic extract prepared from defatted stem was to check various phytochemicals using spectrophotometric and chromatographic technique. The antioxidant potential was determined by FRAP and Reducing Power assay in extract. Cytotoxicity of extracts was determined using mouse fibroblast L929 cell lines by MTT assay. *In vivo* angiogenic activity was observed on chick chorioallantoic membrane (CAM) model by observing blood vessels formation and its branching. *In vivo* wound healing activity was observed on excision wounds in rat model by quantifying percentage of wound contraction, antioxidant activity and histopathology studies. From the present study, polyphenols, tannins and alkaloids were found to be determined in the ethanolic extract by means of spectrophotometric and chromatographic analysis against standards. Antioxidant assay revealed maximum antioxidant potential in ethanolic extract. Cytotoxic effect of extract has not been shown on L929 cell line. From CAM model, extract has shown growth of blood vessels formation at concentration of 480 µg/ml. Topical application of extracts on excision wounds, revealed wound healing activity i.e., 98.7% ± 0.002 on 14th day as well as enzymatic activity (SOD, CAT, GST) and non-enzyme content (GSH and Lipid peroxidation) has been found to be high in granulated tissue. Histopathological studies confirmed the re-epithelization in skin wounds. It can be concluded that stem of *N. tabacum* can be used as herbal remedy in wound healing process as a topical application.



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August 30, 2021

INDEX

A E Ingram	11
Alexandra I Sergeeva	21
Amanda Rodrigues Scheffer	23
Eleni Karagergou	17
J Madison Clark	9
Julie van Lith-Bijl	19
Lisotskaya V V	25
Michael J Nuara	10
Shin-ichi Kanemaru	14
Tae-Yeong Yang	16
Tamas Sass	20
Zhiwen Joseph	15

Conferences By Destination

- Australia
- Austria
- Brazil
- Canada
- China
- Denmark
- Finland
- France
- Germany
- Hong Kong
- India
- Indonesia
- Italy
- Japan
- Malaysia
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- Philippines
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