

FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY PAPER PRESENTATIONS

Describing the Orbital Decompression Approach with Decompression of the Optic Nerve by Endoscopy Method in Grave's Disease

- I. Arteau-Gauthier, D. Pouliot, Y. Molgat, S. Nadeau, Québec, QC

LEARNING OBJECTIVE

By the end of this session the doctor will be able to describe the method of orbital decompression with optic nerve decompression by endoscopy and will know the results and the rate of complication associated with this surgery.

ABSTRACT

OBJECTIVE: To assess the outcomes of endoscopic and external lateral orbital decompression in patients with dysthyroid orbitopathy. Secondly, to establish a correlation between the percentage of postoperative diplopia and the technique used.

METHOD: Retrospective review of 37 patients (68 orbits) who underwent endoscopic medial orbital decompression ± inferior and external lateral orbital decompression between 1997 and 2009 at the Hôpital Enfant-Jesus in Quebec City. All patients with neuropathy underwent endoscopic decompression of the optic canal. Measurements of the visual acuity, the color vision, diplopia and orbital recoil were done before and after surgery.

RESULT: All patients had satisfactory improvement of their ocular pathologies including: visual acuity, color vision, optic neuropathy and orbital recoil. 80% of the patients had a complete resolution of their neuropathy, 77% had an improvement of their visual acuity and 67% had some diplopia post-op.

CONCLUSION: For the patient suffering from Grave's disease with exophthalmos and/or neuropathy, the endoscopic orbital decompression with optic nerve decompression offers a significant improvement in terms of visual acuity, color vision and orbital recoil without any significant complication.

Local Complication Rates in Mandibular Reconstruction: Bone Impacted versus Traditional Fibular Free-flaps

- B. Barber, H. Seikaly, P. Dziegelewski, J. Harris, EDMONTON, AB

LEARNING OBJECTIVES

At the end of this session, the participator should be able to:

- 1) Recognize the difference between the traditional fibular free flap and the bone-impacted fibular free flap.
- 2) Appreciate the difference in complication rate and types in traditional and BIFFF for mandibular reconstruction.
- 3) Recognize the contribution of bone-impacted fibular flaps to dental rehabilitation, and its subsequent impact on post-operative functional outcomes.

ABSTRACT

BACKGROUND: Bone impacted fibular free-flap (BIFFF) mandibular reconstruction was developed to improve dental implantation and prosthetic fitting. A previous study has demonstrated the efficacy of this technique; however, local complication rates of the BIFFF have not been assessed.

OBJECTIVES: To compare the long-term local complication rates of traditional fibular free-flaps to BIFFF used in mandibular reconstruction.

METHODS: A retrospective historical case-control trial was performed. All mandibular reconstruction cases involving a traditional or BIFFF at the University of Alberta from 1998-2009 were reviewed. Patient demographics, tumour characteristics as well as local complications were examined. A logistic regression analysis was performed to determine predicative factors of local complications.

RESULTS: The traditional fibular flap (n=89) demonstrated an overall higher complication rate of 15%, as compared to an 8% complication rate for the bone-impacted flap (n=75). The most common complication in both flaps was hardware exposure, with a significantly higher rate in the traditional fibular flap ($p < 0.05$). The rates of malocclusion and dental implantation revision were also significantly lower in the BIFFF ($p < 0.05$).

CONCLUSIONS: The BIFFF demonstrates a lower overall complication rate than the traditional fibular free flap, and allows for improved anchoring of dental implants with less malocclusion.

Submental Liposuction: A New Treatment Option for Lymphedema in Head and Neck Cancer Patients

- M. Brake, S. M. Taylor, M. Al-Gilani, R. Hart, J. Trites, HALIFAX, NS

LEARNING OBJECTIVES

1. To Recognize the decreased quality of life for patients suffering from head and neck lymphedema.
2. To discuss liposuction as a treatment option for patients suffering with lymphedema resulting from head and neck cancer treatments.
3. To examine outcomes of patients who have undergone liposuction for head and neck cancer treatment-related lymphedema.
4. To provide new treatment options for patients suffering from this condition.

ABSTRACT

OBJECTIVES: Patients who have undergone extensive treatment for head and neck cancers are at risk for neck lymphedema, which can severely affect quality of life. Liposuction has been used successfully for cancer patients who suffer from post-treatment limb lymphedema. Our study was intended to review the outcomes of head and neck cancer patients at our centre who have undergone submental liposuction for post-treatment lymphedema.

METHODS: Two validated surveys (Rhinoplasty Outcome Evaluation and The Darriford Appearance Scale) were used to assess patients satisfaction pre- and post-operatively. All head and neck cancer patients who had undergone submental liposuction for post-treatment lymphedema between Oct 1, 2007 and Oct 1, 2009 were included in the study.

RESULTS: Eight patients met the criteria outlined by our study. There was a statistically significant improvement in patients' self-perception of appearance, mental health and quality of life.

CONCLUSIONS: Liposuction is a simple and feasible option to help improve the quality of life for head and neck cancer patients suffering from post-treatment lymphedema.

The History of Facial Plastic Surgery in Canada

- M. Brandt, C. Moore, K. Conrad, LONDON, ON

LEARNING OBJECTIVES

At the completion of the presentation attendees will have an improved understanding of the development of Facial Plastic Surgery in Canada.

Attendees will become more aware of the challenges that have been overcome in the establishment of Facial Plastic Surgery as a recognized subspecialty of Otolaryngology - Head and Neck Surgery.

Attendees will become familiar with those Canadian Otolaryngologists-Head and Neck Surgeons who have made major contributions to the field of Facial Plastic Surgery.

ABSTRACT

Objectives: Canadians have played a significant role in the development of Facial Plastic Surgery nationally and internationally. This endeavor sought to trace the impact these Canadian pioneers have made on the field of facial plastic surgery and highlight the establishment of Facial Plastic Surgery as a subspecialty area of Otolaryngology-Head and Neck Surgery in Canada.

Methods: An extensive literature review and personal interviews were conducted over a 12-month term to trace the origins and establishment of Facial Plastic Surgery as a subspecialty area of Otolaryngology – Head and Neck Surgery in Canada.

Results: Canadian Otolaryngologists – Head and Neck Surgeons have been active practitioners in the field of Facial Plastic Surgery since its origins in North America. Many of these individuals have played a distinguished role in the advancement and development of this specialty both within Canada and abroad.

Conclusions: Canadian Otolaryngologists – Head and Neck Surgeons have practiced as regional plastic surgery specialists since the establishment of Facial Plastic Surgery in North America. Although the specialty of Facial Plastic Surgery and its practitioners have faced many challenges, it is now recognized as an integral component of otolaryngology and a core area of training within the majority of otolaryngology – head and neck surgery residency programs in Canada.

Restoration of the Orbital Aesthetic Subunit with the Thoracodorsal Artery System of Flaps

- E. Chanowski, D. Chepeha, K. Casper, S. Chandarana, S. Paul, J. Lee, A. Sacco, M. Prince, ANN ARBOR, MI

LEARNING OBJECTIVES

1. By the end of this session, the listener will be able to describe the surgical utilities of the thoracodorsal artery system of flaps.
2. By the end of this session, the listener will be able to describe reconstructive options of the orbital aesthetic subunit that do not involve an ocular prosthesis.
3. By the end of this session, the listener will be able to describe the emerging role of the thoracodorsal artery system of flaps in the restoration of the orbital aesthetic subunit.
4. By the end of this session, the listener will be able to consider the positive outcomes associated with the reconstruction of the orbital aesthetic subunit with the thoracodorsal artery system of flaps and this reconstruction's role in the high functioning of patients postoperatively.

ABSTRACT

Objective: To demonstrate the utility of the thoracodorsal artery system of flaps using the thoracodorsal artery scapular tip autogenous transplant in a prospective case series of patients requiring reconstruction of the orbital aesthetic subunit.

Patients and Methods: 10 patients underwent reconstruction of the orbital aesthetic subunit between 2001 and 2008. All patients had bony defects with orbital exenteration in 9/10 patients. The two utilities of the thoracodorsal artery system for orbital reconstruction are a long pedicle and the suitability of the scapula tip to the three dimensional requirements of the orbit. Patients were assessed for orbital closure, cosmetic outcome, work status, socialization outside the home, and preference for an orbital prosthesis. Mean follow-up, 25 months (range, 6-77).

Results: 4/10 patients benefited from one utility and 5/10 patients benefited from two. Of the evaluable patients, 7/7 reported frequently socializing outside their home and 4/5 patients working pre-treatment returned to work post-treatment. 7/9 patients had minimal or no facial contour deformity and 1/6 patients would have preferred an orbital prosthesis.

Conclusions: The utility of the thoracodorsal artery system of flaps effectively restores orbital contour and has a long vascular pedicle. Patients have an acceptable cosmetic result and return to work and socialization.

Systematic Review of Implantable Doppler Technology in Head and Neck Reconstruction

- M. Gupta, M. Corsten, D. Coyle, D. Fergusson, OTTAWA, ON

LEARNING OBJECTIVES

To discuss the current evidence for the use of implantable Doppler technology in monitoring free tissue transfer in head and neck reconstructions.

To direct future research in free flap monitoring.

ABSTRACT

OBJECTIVES: To determine if there is the evidence in the literature that for the use of implantable Doppler technology in free flap reconstruction of head and neck defects is associated with lower free flap failure rates.

METHODS: A systematic review was designed using the exploded keywords "Head and Neck Neoplasms" and "Surgical Flaps" on Medline. In addition to the Medline search, Embase, Scopus, and Pubmed searches were also performed. To be included in the review, the study had to clearly state the number of Head and Neck defects in the study population. The study also had to clearly state the number of patients in the study population who received implantable Doppler monitoring. A pooled variance technique was used to calculate the failure rates.

RESULTS: A total of 20 papers met the inclusion criteria. Nineteen of the studies were case series. One was a randomized trial. The literature contained a total of 6930 free flap procedures which were monitored by non-implantable Doppler means. The number of free flap procedures monitored by implantable Doppler technology in the literature was 444. Using the pooled variance technique, clinical monitoring was associated with a failure rate of 4.2% (95% CI: 3.4-5.1%) and implantable Doppler technology was associated with a failure rate of 2.1% (95% CI: 1.1-4.0%).

DISCUSSION: The difference in failure rates between was not significant but there is a trend to lower failure rates with the use of implantable Doppler technology.

Eyelid and Brow Asymmetry in Patients Evaluated for Blepharoplasty

- K. Macdonald, S.M. Taylor, A. Mendez, HALIFAX, NS

LEARNING OBJECTIVES

By the end of this session, the facial plastic surgeon will appreciate the lack of literature available on facial asymmetry in the normal population, and will be able to cite the incidence of eyelid and brow asymmetry in a population of 100 Canadians presenting for evaluation of blepharoplasty.

ABSTRACT

OBJECTIVES: Although symmetry is a defining quality of beauty, patients rarely present with a complaint of eyelid or brow asymmetry for evaluation of blepharoplasty. There is little literature available that describes the incidence of facial asymmetry in the normal population. We aimed to determine the incidence of asymmetry in patients evaluated for blepharoplasty.

METHODS: Patients who had an assessment for upper eyelid surgery from January 2004 to January 2009 were included in this retrospective study. Patients with an explanation for asymmetry were excluded. The presenting author (KIM) measured the following distances: the margin pupil (MPD), central eyebrow (CED), nasal eyebrow (NED) and temporal eyebrow (TED). The senior author did the same for 10% of randomly selected patients. A 95% confidence interval was used to calculate asymmetry between the right and left sides.

RESULTS: 100 patients (94 female, mean age 57.7) were included in the study. The average MPD, CED, NED and TED were 0.55mm (95%CI 0.45-0.65), 1.77mm (95%CI 1.47-2.07), 1.34mm (95%CI 1.14-1.54), and 1.78mm (95%CI 1.50-2.06), respectively. There were 93% of the patients who had at least one measurement of asymmetry greater than 1mm, 75% with at least one greater than 2mm, and 37% with at least one greater than 3mm.

CONCLUSION: There is a high level of eyelid and brow asymmetry in this population. This will help improve patient expectations and may impact the surgical plan.

Functional and Cosmetic Outcomes of Patients with Maxillectomy Defects Reconstructed with Vascularized Free Tissue Transfer

- J. Tibbo, H. Seikaly, J. Harris, R. Reiger, EDMONTON, AB

LEARNING OBJECTIVES

1. To review the classification of maxillectomy defects.
2. To learn about the various methods of reconstruction of maxillectomy defects.
3. To learn about the most common reconstructive methods used at our centre.

4. To learn about the advantages of medical modelling.
5. To learn about the functional and cosmetic outcomes of patients reconstructed with free tissue transfer at our centre.
6. To learn about future endeavours: comparing functional and cosmetic outcomes of patients reconstructed with free tissue transfer reconstruction vs. palatal obturators.

ABSTRACT

OBJECTIVES: To assess the functional and cosmetic outcomes of patients with maxillectomy defects reconstructed with vascularized free tissue transfer.

METHODS: We analyzed prospectively collected data on 35 patients with maxillectomy defects reconstructed with vascularized free tissue transfer (mainly radial forearm and fibula free flaps). Functional outcomes after reconstruction was assessed using a comprehensive collection of outcomes parameters including: PERCI-SARS for assessment of velopharyngeal orofice area, nasometer for assessment of nasalance, and standardized recordings for assessment of speech intelligibility. Cosmetic analysis was performed using eight naïve viewers providing assessment via a 10 point Likert scale.

RESULTS: In all parameters measured for both functional and cosmetic outcomes, results were excellent for free tissue reconstruction.

CONCLUSIONS: Patients and reconstructive surgeons should expect excellent functional and cosmetic results with reconstruction of maxillectomy defects with free tissue transfer. Our next step will be to compare free tissue transfer reconstruction with the gold-standard at most institutions; palatal obturator.

Posterior Tibial Free Flap in Reconstruction of the Head and Neck

- J. Vaz, H. Seikaly, D. Cote, J. Tibbo, J. Harris, EDMONTON, AB

LEARNING OBJECTIVES

- 1) By the end of this session, the program audience will be able to describe the surgical details of harvesting and anastomosing a posterior tibial microvascular free flap.
- 2) By the end of this session, the program audience will be able to evaluate the potential benefits of using the posterial tibial free flap in reconstruction of major defects of the head and neck.
- 3) By the end of this session, the program audience will be able to describe the post-operative outcomes of patients with posterior tibial free flap.

ABSTRACT

BACKGROUND: The posterior tibial flap is a soft tissue flap that has been described in foot, arm and lower leg reconstruction. This flap is potentially an excellent flap option for reconstruction of the head and neck because it offers thin, pliable and well vascularized tissue.

OBJECTIVE: To report a prospective series of patients who underwent resection of major head and neck carcinomas followed by reconstruction using the posterior tibial free flap.

METHODS: 7 patients that had undergone reconstruction with a posterior tibial flap at the University of Alberta from January 2009 to January 2010 were reviewed.

RESULTS: The posterior tibial flap was used to repair defects of the oral cavity (n=4) and oropharynx (n=3). On average, the free flap measured 12cm x 9.8cm with a pedicle length of 9cm. In all cases, the flap was elevated with at least 2 musculocutaneous perforators and, one flap was neurotized with the lingual nerve. All the flaps survived. Incomplete donor site skin graft take was seen in 2 patients.

CONCLUSIONS: The posterior tibial flap is well suited for head and neck reconstruction and should be added to the reconstructive surgeon's armamentarium.