

Beaumont Health

Beaumont Health Scholarly Works and Archives

Conference Presentation Abstracts

Physical Medicine and Rehabilitation

10-2022

Surgical Correction of Secondary Velopharyngeal Insufficiency After Gunshot Injury

Rogelio Martinez Wagner

Cristopher Cardenas Cruz

Ivan Ortiz-Monasterio Todd

Edgar Vargas Flores

Pablo Antonio Ysunza

Beaumont Health

See next page for additional authors

Follow this and additional works at: https://scholarlyworks.beaumont.org/physical_medicine_rehabilitation_confabstract



Part of the [Rehabilitation and Therapy Commons](#)

Recommended Citation

Wagner RM, Cruz DD, Todd IOM, Florez EV, Ysunza PA, Cifuentes MMC, et al. Surgical correction of secondary velopharyngeal insufficiency after gunshot injury. *J Craniofac Surg.* 2022 Oct;33(7):2303-2304.

This Conference Proceeding is brought to you for free and open access by the Physical Medicine and Rehabilitation at Beaumont Health Scholarly Works and Archives. It has been accepted for inclusion in Conference Presentation Abstracts by an authorized administrator of Beaumont Health Scholarly Works and Archives. For more information, please contact janet.zimmerman@beaumont.org.

Authors

Rogelio Martinez Wagner, Cristopher Cardenas Cruz, Ivan Ortiz-Monasterio Todd, Edgar Vargas Flores, Pablo Antonio Ysunza, Maria Mercedes Cabrera Cifuentes, and Del Carmen Pamplona

with fat tissue improves the long-term retention of the grafts in pediatric patients with craniofacial microsomia.

Methods: Pediatric patients with craniofacial microsomia (N=30) were grafted with either supplementation of ADSC (experimental group) or without supplementation of ADSC (control group). 3D photogrammetry was performed to assess both hemifaces preoperatively and at 1 week, 2 weeks, 1 month, 3 months, 6 months, and 12 months postoperatively. Cost-effectiveness analysis was performed, and the Youth Quality of Life-Facial Differences (YQOL-FD) was applied during both the preoperative and 12 months postoperative period.

Results: For the experimental group surviving fat volume at 12 months was significantly higher than for the control group ($P=0,001$). Graft retention superior to 75% was observed in 11% of the control group but 79% of the experimental group. Graft retention between 50-74% occurred in 33% of the control group and 21% of the experimental group. Finally, graft retention below 50% was seen in 55% of control patients.

Conclusions: These results suggest that this strategy for isolation and supplementation of ADSC is effective, safe, and superior to conventional lipoinjection for facial recontouring in patients with craniofacial microsomia.

References:

- Tanikawa DYS, Aguená M, Bueno DF, et al. Fat grafts supplemented with adipose-derived stromal cells in the rehabilitation of patients with craniofacial microsomia. *Plast Reconstr Surg* 2013; 132 (1): 141-52.
- Yoshimura K, Sato K, Aoi N, Kurita M, Hirohi T, Harii K. Cell-assisted lipotransfer for cosmetic breast augmentation: supportive use of adipose-derived stem/stromal cells. *Aesthetic Plast Surg*. 2008; 32: 48-55; discussion 6-7.
- Yoshimura K, Sato K, Aoi N, Kurita M, Inoue K, Suga H, et al. Cell-assisted lipotransfer for facial lipotrophy: efficacy of clinical use of adipose-derived stem cells. *Dermatol Surg*. 2008; 34: 1178-1185.
- Yoshimura K, Asano Y, Aoi N, Kurita M, Oshima Y, Sato K, et al. Progenitor-enriched adipose tissue transplantation as rescue for breast implant complications. *Breast J*. 2010; 16: 169-175.
- Tiryaki T, Findikli N, Tiryaki D. Staged stem cell-enriched tissue (SET) injections for soft tissue augmentation in hostile recipient areas: a preliminary report. *Aesthetic Plast Surg*. 2011; 35: 965-971.

Self-Concept and Its Relationship With Educational and Work Level in Adults With Sequelae of Cleft Lip Palate

Danivia López García, PhD; Universidad Autonoma del Estado de Morelo, Mexico

Background: In Mexico, as in other Latin American countries, after surgical treatment of cleft lip and/or palate (CLP), the rehabilitation and psychological treatment of the patient is not adequately followed, nor is the impact of the consequences of this condition on the subjects throughout their lifetime.^{1,2}

Method: The main objective was to analyze the level of self-concept presented by adults with CLP sequelae and to describe how it is associated with the educational and work level at which they operate. The design of the research was developed under mixed methodology, being of sequential explanatory type, transversal and descriptive in two times. A sample of 22 participants (12 women and 10 men) was recruited, with an average age of 26.6. The AF-5 scale of the Auto-concept (Salum-Fares, Marin & Reyes, 2011) and a semi-structured interview were adapted for evaluation.

Results: In the quantitative results, it was found that 100% of the sample had a normal self-concept, while at the educational level 41% had a basic level and at the labor level only 2% were professionals. In the qualitative results, a discrepancy was found between what was reported in the self-concept and the perception that they have of themselves within the different spheres, finding that more than 50% of the sample had difficulties inserting themselves into educational and working life. This research provides an overview of some problems faced by adults with sequelae of CLP in Mexico, reaffirming what has been reported in other research on the importance of establishing measures that allow parents to have access to real information about the pathology and providing comprehensive treatment to people with CLP from childhood.

References:

- Marcusson, A., Akerlind, I., Paulin, G. (2001). Quality of life in adults with repaired complete cleft lip and palate. *Cleft Palate Craniofac Journal*. 2001; 38: 379-385.
- Oosterkamp, BC., Dijkstra, PU., Rimmelink, HJ., Van, OR., Goorhuls-Brouwer, SM., Sandham, A., Bont, LG. Satisfaction with treatment outcome in bilateral cleft lip and palate patients. *Int J Oral Maxillofac Surg*. 2007; 36: 890-895.

Surgical Correction of Secondary Velopharyngeal Insufficiency After Gunshot Injury

Dr. Rogelio Martinez Wagner, Dr. Cristopher Cardenas Cruz Dr. Ivan Ortiz-Monasterio Todd, Dr. Edgar Vargas Flores, Dr. Pablo Antonio Ysunza, Dra. María Mercedes Cabrera Cifuentes, Ph.D Ma. Del Carmen Pamplona

Objective: To present the surgical treatment of a case of Gunshot Wound (GSW) to the face with palatal involvement and Velopharyngeal Insufficiency (VI). A review of the related literature is also presented

Methods: Case Report: Literature Review, description of the case, discussion, and conclusion.

Results: We present a case of a 33 year old patient who suffered a GSW from a 9mm bullet. The patient was seen at the Emergency Department of the Hospital Gea Gonzalez in Mexico City 11 days after the incident. He presented with an entrance wound penetrating between soft and hard palate and an exit wound on the right malar region. The patient exhibited severe hypernasality and consistent nasal emission. The clinical manifestations of the patient were: nasal regurgitation of food, especially liquids, oral dysphagia, pharyngeal dysphagia and hypernasality secondary to VI. Taking into account that, the minimum speed to pierce the skin is 50 m/s, and to affect the bone 60 m/s. The patient was scheduled for a dual ipsilateral rotational inferior myomucosal flap and superior mucoperiosteal flap with interposition of costal cartilage graft for providing to the closure site. The objective of a levator sling reconstruction is to maximize velar elevation and posterior closure by establishing normal levator muscle relationships. The patient was discharged the following day with liquid diet which was progressed to soft diet after one week. He was followed at the Plastic and Reconstructive Surgery out-patient clinic. The wounds were healed after 15 days. He recovery the proper phonation, swallowing, and breathing, Speech was normal without dysarthria, greatly increasing the capacity of patient's quality of life.

Conclusion: Reconstruction of midfacial traumatic defects is one of the most challenging of the head due to the high impact

on functional and aesthetic quality of life, and small margin of error to achieve a good result. Its treatment depends on the type of weapon used, deforming characteristics of the bullet, kinetic energy, place of impact and state of the patient. Bullet wounds generate a particular injury. Due to their special trauma kinematics in this case our patient required extensive reconstructive surgery with interposition of costal cartilage to recover velopharyngeal stability and adequate phonation. Patients treated with this surgical strategy develop fewer complications such as infection, shrinkage, scarring. As demonstrated by this case report, the result can be satisfactory.

References:

1. Crecelius C. (2013). Soft tissue trauma. Atlas of the oral and maxillofacial surgery clinics of North America, 21(1), 49–60. <https://doi.org/10.1016/j.cxom.2012.12.011>
2. Stefanopoulos, P. K., Filippakis, K., Soupiou, O. T., & Pazarakiotis, V. C. (2014). Wound ballistics of firearm-related injuries—part 1: missile characteristics and mechanisms of soft tissue wounding. International journal of oral and maxillofacial surgery, 43(12), 1445–1458. <https://doi.org/10.1016/j.ijom.2014.07.013>
3. Palacios Vivar, Diego Esteban, Miranda Villasana, José Ernesto, & Calderón Lumbreras, Angélica Shadai. (2017). Herida facial por proyectil de arma de fuego: revisión de literatura y estudio clínico de tres casos. Revista odontológica mexicana, 21(2), 127-134. <https://doi.org/10.1016/j.rodme.2017.05.009>
4. Simman R. (2009). Wound closure and the reconstructive ladder in plastic surgery. The journal of the American College of Certified Wound Specialists, 1(1), 6–11. <https://doi.org/10.1016/j.jcws.2008.10.003>
5. Eskander, A., Kang, S. Y., Teknos, T. N., & Old, M. O. (2017). Advances in midface reconstruction: beyond the reconstructive ladder. Current opinion in otolaryngology & head and neck surgery, 25(5), 422–430. <https://doi.org/10.1097/MOO.0000000000000396>
6. Pribaz, J., Stephens, W., Crespo, L., & Gifford, G. (1992). A new intraoral flap: facial artery musculomucosal (FAMM) flap. Plastic and reconstructive surgery, 90(3), 421–429. <https://doi.org/10.1097/00006534-199209000-00009>
7. Futran, N. D., & Haller, J. R. (1999). Considerations for free-flap reconstruction of the hard palate. Archives of otolaryngology—head & neck surgery, 125(6), 665–669. <https://doi.org/10.1001/archotol.125.6.665>
8. Compan J, Alvaro. (2009). Reconstrucción microquirúrgica del velo del paladar y pared lateral de orofaringe: Una nueva propuesta de clasificación. Resultados funcionales. Revista chilena de cirugía, 61(3), 236-248. <https://dx.doi.org/10.4067/S0718-40262009000300005>
9. Gahhos, F., & Ariyan, S. (1984). Facial fractures: Hippocratic management. Head & neck surgery, 6(6), 1007–1013. <https://doi.org/10.1002/hed.2890060605>
10. Futran, N. D., & Haller, J. R. (1999). Considerations for free-flap reconstruction of the hard palate. Archives of otolaryngology—head & neck surgery, 125(6), 665–669. <https://doi.org/10.1001/archotol.125.6.665>
11. Kaplan. Soft palate repair by levator muscle reconstruction and a buccal mucosal flap. Plast and Recons Surg, 56(2) 129-136. Stanford 1975.
12. Agrawal K. (2009). Cleft palate repair and variations. Indian journal of plastic surgery : official publication of the Association of Plastic Surgeons of India, 42 Suppl(Suppl), S102–S109. <https://doi.org/10.4103/0970-0358.57197>

Surgical Reposition of Premaxilla – Clinical Case

Carlos Fuenzalida Kakarieka¹, Loreto Castellón Zirpel¹, Germán Laissle Casas del Valle¹, Constanza Guzmán¹, Loreto Lennon², Carlos Bahamondes²; ¹(Chile) Hospital Dr. Luis Calvo Mackenna, Hospital Dr. Exequiel González Cortés, ²(Hospital Dr. Exequiel González Cortés)

Background: A distorted position of the premaxilla can be a challenging issue when dealing with severe forms of the bilateral cleft lip and palate. It is not advisable to correct a sagittal protrusion during growth, unless there are severe psychologic problems or difficulty in performing a bone graft with potential risk of periodontal damage of the erupting teeth. On the other hand, vertical excess does not reduce spontaneously with growth and, therefore, can and should be corrected. It usually is a severe aesthetic problem and can make bone grafting more difficult.

Methods: A case of a 14-year-old male patient with bilateral cleft lip-alveolus-palate with severe extrusion of the premaxilla is presented. He was prepared with fixed orthodontic appliances by aligning segments and teeth.

It was planned by using 3D software to virtually reposition the premaxilla, osteotomizing the vomer and generating a splint, which places the premaxilla in the planned position.

Results: The patient underwent surgical repositioning of the premaxilla, according to the 3D planning and it was fixed with an osteosynthesis plate and a corticocancellous graft (obtained from the iliac crest) was performed on the more favorable side. The splint was fixed with a 0.4 mm wire for 8 weeks and at 6 months a block bone graft was performed on the other side (obtained from the iliac crest).

The patient is in good condition, finishing his orthodontic treatment

References:

- Liou EJW, Chen PKT, Huang S, et al. Orthopedic intrusion of premaxilla with distraction devices before alveolar bone grafting in patients with bilateral cleft lip and palate. *Plast Reconstr Surg* 2004;113:818-826
- Carlini JL, Biron C, Gomes KU, Da Silva RM. Surgical repositioning of the premaxilla with bone graft in 50 bilateral cleft lip and palate patients. *J Oral Maxillofac Surg*. 2009;67(4):760-766.
- Koh KS, Han WY, Jeong WS, Oh TS, Kwon SM, Choi JW. Premaxillary repositioning in the severe form of bilateral cleft lip and palate. *J Craniofac Surg*. 2016;27(6):1440-1444.
- Meazzini M, Lematti L, Mazzoleni F, Rabbiosi D, Bozzetti A, Brusati R. Vertical excess of the premaxilla in bilateral cleft lip and palate patients: a protocol for treatment. *J Craniofac Surg*. 2010;21(2): 499-502.

The Importance of Psychology in the Multidisciplinary Treatment of Patients With Cleft Lip and Palate

Danivia López García, PhD; Universidad Autonoma del Estado de Morelo, Mexico

Background: In the last decade, the importance of psychological care in patients with cleft lip and palate (CLP) has been demonstrated in different research projects and countries around the world since malformation not only involves physical but also emotional and psychological consequences in both the patient and the family. This paper analyzes the psychological services available in cleft clinics and the care protocol used.

Methods: The main objective was to review and analyze the importance given to the psychological care of patients with