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PURPOSE: Latissimus dorsi-rib osteomyocutaneous flaps (LDRFs) are versatile in reconstructing compromised composite defects of the cranium. The flap restores the contour of the skull, protects the brain, and improves neurologic status. There are benefits to using autologous rib instead of alloplastic material; however, rib viability and flap success rely on adequate blood supply. Our aim was to present the outcomes of 6 patients treated with LDRF and provide an anatomical basis for this flap.

METHODS: Six patients with cranial defects treated with LDRF were evaluated retrospectively. Defect size, etiology, previous reconstructive attempts, outcomes, and complications were assessed. Red latex was injected into the subscapular arterial system of 20 fresh cadaver sides. In the prone position, latissimus dorsi muscle was dissected from the ribs in a mediocaudal to superolateral direction to locate interconnecting vessels between the thoracodorsal and lateral posterior intercostal systems. The number, diameter and length of perforators, and distance from midline were measured.

RESULTS: All patients had a history of ≥2 previous failed reconstructions. Defects were secondary to gunshot injury, post-CVA cranioplasty, postablative irradiation, and postfrontal intracranial hemorrhage cranioplasty. Three defects were reconstructed using 2 ribs, whereas the remaining 3 patients received 1 rib. A prolene mesh was used to fill in the donor site defects in 4 patients. Follow-up ranged from 6 to 35 months. All patients had stable reconstructions. Headache resolved in 2 patients after reconstruction, and neurologic status improved in 2 patients. An average of 13.75 perforators could be localized in each cadaveric latissimus dorsi muscle. No perforator was found for the seventh rib. Not all cadaver sides contained perforating vessels for the eighth and 12th ribs. The 10th rib (4.65 ± 2.01) followed by ninth rib (3.7 ± 1.63) had the highest number of perforators. The eighth and 12th ribs contained the least perforators. The eighth rib had the longest perforators (4.26 ± 1.52 cm).

CONCLUSION: The LDRF can successfully address large composite cranial defects, provide support, and enhanced contour with negligible donor-site morbidity. The 10th followed by the ninth rib has the best vascular supply for this flap. If 2 ribs are considered for the flap, the ninth and 11th are recommended. If only 1 rib is necessary for reconstruction, the 10th is ideal.

Decision-making in Pediatric Plastic Surgery: Autonomy Versus Shared Approaches

Presenter: Kavitha Ranganathan, MD

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BACKGROUND: Although shared decision-making is an essential component of patient-centered healthcare, its role in pediatric patient populations is not well-defined. Particularly among children presenting to pediatric plastic surgery clinics, the extent of agreement among parents, children, and providers regarding the extent of autonomous decision-making remains unclear. The goal of the present study was to define the preferred level of autonomy in decision-making among the various stakeholders involved in cleft care.

METHODS: We surveyed children presenting to plastic surgery clinics (n = 100) and their caregivers regarding their preferences on autonomy during the process of surgical decision-making. Patients and their parents independently completed surveys on their preferred method of decision-making. Patients and their parents independently completed surveys on their preferred method of decision-making and autonomy. Fleiss’ kappa was used to assess the extent of agreement between groups. Bivariate chi-square tests were used to assess the relationship between decision-making preferences and demographic factors such as age, gender, and socioeconomic status. Multinomial logistic regression was performed to assess the relationship between age and sex and child/parent preference.

RESULTS: Of the 100 children surveyed, 64 were female; the average age was 12.5 years. Children and their caregivers disagreed upon their overall decision-making preferences (k = 0.0385). Overall, 40% of children and 67% of parents preferred the option of completely shared decision-making among the patient, parent, and provider; the majority of children (16%) preferred the doctor to be the sole decision-maker. Approximately 20% of children desired complete autonomy. Child’s preference was significantly associated with their age; the relative risk of children deferring to parents or surgeons over a shared approach was lower for adolescents compared to children under 10 years old (RR, 0.202; 95% confidence interval, 0.054–0.751; P = 0.017). Alternatively, caregiver’s preferences did not change based on the child’s age, but rather based on the...
child’s sex. Parents were less likely to prefer a shared approach when the child was female (odds ratio, 0.365; 95% confidence interval, 0.139–0.961; \( P = 0.04 \)).

CONCLUSIONS: Although most parents preferred a completely shared approach to decision-making, children desired greater autonomy, particularly with increasing age. There was limited agreement between parents and children regarding their decision-making preferences. Providers must be cognizant of differing preferences among parents and children when discussing treatment plans and surgical algorithms; to optimize patient and parent satisfaction, differing methods of discussion may be required to respect the preferences of all stakeholders involved.

Craniofacial Fellowship Trained Surgeons: Where Are They Now?

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INTRODUCTION: There are currently 29 craniofacial surgery fellowship training programs in the United States and Canada endorsed by the American Society of Craniofacial Surgeons and participating in the San Francisco Match. This number has increased over the last decade despite limited demand. The authors sought to evaluate the practice types and patterns of craniofacial fellowship trained surgeons.

METHODS: After Institutional Review Board approval, a 20-question survey was designed to evaluate craniofacial surgeons and their practice patterns. The survey was sent to surgeons who completed accredited craniofacial fellowships in the United States or Canada from 2010 to 2018. The survey was created and distributed electronically through a private survey research center.

RESULTS: There were 61 respondents (26.5% response rate), 68.8% male, and 85.2% 36–45 years old. 54.1% trained in integrated plastic surgery residency before fellowship, and 39.1% trained in general surgery followed by plastic surgery fellowship. Some had previously completed fellowships: 8 (13.1%) pediatric plastic surgery, 5 (8.2%) microsurgery, 4 (6.6%) esthetic surgery, 3 (4.9%) hand surgery, and 2 (3.3%) burn surgery. Forty-five surgeons (75%) have been in practice \( \leq 5 \) years. Practice profiles were academic (49.2%), private (23.0%), and hospital employed (9.8%) with 18% in various hybrid practices. Percentage of practice dedicated to craniofacial surgery was <25% for 21 (34.4%), 25–50% for 10 (16.4%), 51%–75% for 13 (21.3%), and >76% for 17 surgeons (27.9%) with 63.8% desiring an increase in craniofacial case volume. Surgeons’ patient populations are 14.8% pediatric only, 6.6% adult only, and 78.7% combined. They perform craniofacial trauma reconstruction (88.5%), general plastic surgery reconstruction (83.6%), cleft lip and palate repair (75.4%), craniosynostosis reconstruction (68.9%), breast surgery (54.1%), microtia reconstruction (50.8%), orthognathic surgery (50.8%), cosmetic surgery (50.8%), microsurgery (45.9%), hand surgery (36.1%), and facial reanimation (32.7%). Forty-six (75.4%) work as members of a craniofacial team. Twenty-six (42.6%) do not have any craniofacial trained partners. Twelve surgeons (19.7%) had jobs secured before beginning craniofacial fellowship, and 44 (72.1%) were able to find jobs in their desired geographic area. Forty-one (67.2%) would recommend completing a craniofacial fellowship.

CONCLUSION: Craniofacial surgeons trained within the last decade are primarily in academic practice, operate on adults and children, and perform a variety of procedures. Limitations include low response rate and likelihood that surgeons who do not perform craniofacial surgery did not respond. Respondents were able to find employment in their desired location, work on a craniofacial team, and would recommend a craniofacial fellowship.

A Pain in the Neck? Migraine Surgery in Patients With Prior Head or Neck Injury

Presenter: Ricardo Ortiz, BSc
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PURPOSE: A high prevalence (≈37%) of prior head and neck injury has been reported in patients undergoing migraine headache (MH) surgery. conservative medical treatment of posttraumatic MH has had limited success. It is unclear if MH surgery mirrors these unsatisfactory outcomes. In an effort to improve patient selection and preoperative counseling for MH surgery, it is critical to understand expected outcomes across specific populations, including the posttraumatic cohort. However, this subgroup has not been described in detail and their outcomes have not been compared to patients without a history of head or neck injury.