Metopic Ridge: True Craniosynostosis or Result of Positional Plagiocephaly?
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INTRODUCTION: Metopic craniosynostosis occurs in 3% to 10% of all craniosynostosis cases. The Back to Sleep Campaign increased the incidence of positional plagiocephaly by 600%. As prevalence of plagiocephaly has increased, metopic suture abnormalities have also increased. The severity of metopic craniosynostosis varies; not all cases require operation. Positional plagiocephaly is treated with observation or helmet therapy. We hypothesized that there is an increased incidence of metopic abnormalities secondary to plagiocephaly.

METHODS: A chart review was performed from 1/1/2010 to 6/30/2017 on patients diagnosed with positional plagiocephaly or craniosynostosis. Patients with a ridge without any other characteristic of metopic craniosynostosis were considered not to have craniosynostosis.

RESULTS: A total of 488 patients were studied, 405 (83%) had plagiocephaly and 83 (17%) had craniosynostosis. Plagiocephaly location was lateral (77.3%), central (22.5%), and central/lateral (0.2%). Metopic ridges were present in 8% of lateral and 7% of central plagiocephaly (p = 0.66). Metopic craniosynostosis incidence was 51%; 40% required operation. Seven patients had plagiocephaly and metopic craniosynostosis, however, did not require operation. Operation was necessary in 17 patients with metopic craniosynostosis without plagiocephaly.

CONCLUSION: Only 40% of patients with metopic craniosynostosis required operation, indicating most can be observed. Plagiocephaly did not increase the severity of metopic craniosynostosis or the need for surgical intervention. Eight percent of all patients with plagiocephaly have metopic ridges, which can be mistaken for a true craniosynostosis. The location of plagiocephaly did not impact the presence of metopic ridges. Plagiocephaly contributed to the presence of metopic abnormalities but did not increase the need for operation. A metopic ridge can be due to positional plagiocephaly alone or as part of metopic craniosynostosis.

Negative Pressure Wound Therapy Promotes Murine Diabetic Wound Healing By Enhancing Lymphangiogenesis
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INTRODUCTION: Impaired lymphangiogenesis is a hallmark of diabetic wound healing. Negative pressure wound therapy (NPWT) is commonly applied to recalcitrant wounds, but its impact on lymphangiogenesis is unclear. We treated a murine diabetic wound model with NPWT and assessed its impact on lymphangiogenesis.

METHODS: We excised 1 x 1 cm² full thickness wounds on the dorsum of 30 db/db mice and treated the wounds with continuous NPWT (7 days at −125 mmHg; NPWT, n = 15) or with occlusive covering (Blank, n = 15). The wounds were monitored macroscopically and tissue was harvested at predetermined time points. Evans Blue dye tracing was used to assess the function of lymphatic drainage.

RESULTS: NPWT enhanced lymphangiogenesis by increasing the density (p < 0.001) and diameter of lymphatic vessels (p < 0.001), as visualized through podoplanin-staining. NPWT was noted to act at the protein level, significantly upregulating expression of lymphatic vessel endothelial hyaluronan receptor 1 (p = 0.04). Blood vessel density (p = 0.02) and wound bed thickness (p < 0.0001) were higher and wound closure (p < 0.0001) was faster in the NPWT group. No differences were noted in collagen deposition and leukocyte infiltration.

CONCLUSION: NPWT appears to promote lymphangiogenesis through increased lymphatic vessel density and diameter with notable lymphatic vessel endothelial hyaluronan receptor 1 upregulation. We show for the first time in a murine model that NPWT promotes diabetic wound healing through enhanced lymphangiogenesis.

Pain Management for Gender Confirmation Surgery in the Age of the Opioid Overdose Epidemic
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INTRODUCTION: Misuse and abuse of opioids has been declared a national emergency. Although the CDC provides published recommendations to guide opioid prescription practices for chronic pain, data about the need or use of opioid analgesia after specific surgical procedures are scant, and virtually nonexistent for patients after gender affirmation operation. The purpose of this study was to compare the demand for opioids between a standard unimodal patient-controlled analgesia-based regimen and a multimodal postoperative pain management model.

METHODS: Retrospective electronic medical record chart review was completed to review demographics, intraoperative surgical and anesthesia reports, acute postoperative pain management regimens, and opioid administration patterns and use for 467