Results: Overall, the rate of implant-based reconstruction was higher in expansion states vs. non-expansion states for every year studied. The increase in implant-based reconstructions from 2010-2014 was also greater in expansion (11.86% increase) vs. non-expansion states (1.96% increase, p < 0.05). The yearly median rate of implant-based reconstruction post-expansion in 2014 was 48.54% versus 42.00% in expansion and non-expansion states, respectively. In comparison, the overall rate of autologous reconstruction was higher in non-expansion states for every year studied, though the percent of autologous reconstructions increased in both expansion states (13.52% increase) and non-expansion states (10.75% increase) from 2010 to 2014.

Conclusions: Medicaid expansion states saw a significant increase in implant-based reconstruction compared to non-expansion states from 2010 to 2014. These data add to our group’s prior findings that increased access to health insurance also led to an increase in mastectomy rate without a significant increase in number of available reconstructive surgeons or operating room time. This illuminates the downstream effects of this sweeping national health care policy, which improved access to reconstructive care, but has also led to a disproportionate increase in implant-based reconstructions which take much less time than autologous breast reconstructions. This study suggests that increased access to and thus demand for health care services, while supply of providers remains the same, may in fact lead to an unexpected preference for certain reconstructive options over others. As evidenced by these findings, national health care policy may have unforeseen effects on the reconstructive options offered to and ultimately chosen by patients.

Striae Distensae Are Rich In Mechanoresponsive And Cd26-positive Human Dermal Fibroblasts And Exhibit Increased Profibrotic Signaling

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Purpose: Striae distensae (‘stretch marks’) are common disfiguring cutaneous lesions found in a variety of clinical situations. Despite their prevalence, the etiology of striae distensae remains elusive, and this has significantly hindered development of effective treatment strategies. Human dermal fibroblasts (HDF) are the principal cell of the dermis and likely play an important role. We sought to elucidate the key cellular and molecular pathways distinguishing HDF in striae distensae and normal skin.

Methods: Striae distensae and normal skin samples were isolated from abdominoplasty specimens removed in surgical procedures (n=15 Skin tensile strength was assessed, and histological structure was compared using Hematoxylin and Eosin, Trichrome, and Picrosirius Red staining together with a novel computational assessment of collagen fiber networks. HDF were also isolated by flow cytometry using a negative and positive gating strategy (CD45-CD235a-CD31-CD90+LIVE single dermal cells) for analysis of gene expression using mRNA microarrays. Immunofluorescence staining and flow cytometry were used for confirmation of gene expression data at the protein level.

Results: The skin of striae distensae had absent rete ridges, epidermal atrophy, and a more disorganized pattern of collagen fiber bundles upon histological analysis. There was clear delineation in collagen fibers from striae distensae and normal skin with the most divergence in the collagen fibers of the reticular dermis between skin types. The striae distensae also exhibited reduced tensile strength compared to normal skin samples. Microarray analysis revealed 296 up-regulated and 174 down-regulated genes in HDF isolated from striae distensae compared to normal skin. Of the differentially expressed surface markers, CD26 was significantly upregulated in HDF from striae distensae compared to normal skin. Gene ontology analysis confirmed that key profibrotic signaling pathways were significantly up-regulated in striae distensae including focal adhesion, TGFβ, and FAK-PI3-AKT pathways. In contrast, the anti-fibrotic macrophage migration inhibitory factor receptor, CD74, and the AMPK pathway were significantly down-regulated in striae distensae. Increased expression of CD26 and decreased expression of CD74 in striae distensae compared to normal skin was confirmed by flow cytometry and immunofluorescence staining of fresh abdominoplasty skin samples.

Conclusion: Our data start to elucidate the mechanisms mediating the formation of striae distensae and indicate that fibroblasts from striae exhibit increased pro-fibrotic and decreased anti-fibrotic signaling pathways. CD26 is a
known marker of fibrogenic fibroblasts in mice and we show here its expression is increased in striae. CD74 is a known anti-fibrotic surface receptor. The significant up-regulation of CD26 and down-regulation of CD74 at the mRNA and protein level highlight these surface markers as promising targets for development of effective treatment strategies of striae distensae.

Developing A Sustainable Nasoalveolar Molding Program In Outreach Settings: An Eight-year Follow-up

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Purpose: Global Smile Foundation (GSF) is a non profit foundation that provides comprehensive cleft care to underserved patients. GSF focuses on long-term follow up and sustainability of local healthcare teams, having engaged in 32 years of follow up in Ecuador. In 2012, GSF added presurgical NasoAlveolar Molding (NAM) therapy for their patients in Guayaquil, Ecuador, as part of its sustainability and empowerment initiative. We present longitudinal data on 189 patients treated with NAM and discuss the challenges/barriers to its completion.

Methods: Data was collected from GSF surgical and dental records including patient diagnosis, completion/incompleteness and length of NAM therapy. Surgeon, patient age, peri, intra, and post-operative procedural data, were collected for primary cleft lip/nose and palate repair, and any additional surgeries. Follow up clinical and photographic data was retrieved to document long-term outcomes.

Results: A total of 207 patients were treated with pre-surgical therapy: 189 patients received NAM therapy, while 18 patients were treated with lip tape and/or nasal elevator. Of the 189 NAM patients who received NAM, long-term follow up was available for 96 patients (50.8 %), while 84 (44.4%) were lost to follow up or subsequently seen by another foundation, and 9 (4.8%) are currently undergoing NAM or awaiting primary surgery.

Of the 96 patients with long term follow up, 70 (72.9%) had Unilateral Cleft Lip and Palate and 26 (27.1%) had Bilateral Cleft Lip and Palate; 64 (66.7%) were male and 32 (33.3%) were female. Of those 96 patients, 58 (60.4%) completed NAM therapy, 17 (17.7%) failed to complete it, and 21 (21.8%) had incomplete NAM documentation.

The average age at NAM initiation was 36.36 ± 31.39 days (range: 0-157 days) and average length of NAM therapy was 118.98 ± 82.68 days (range: 1-222 days). Patients underwent an average of 2.13±0.93 (range: 1-5) surgeries after NAM Initiation, with an average of 0.17 ± 0.43 (0-2) Cleft Lip/Nose Revisions, 0.06 ± 0.28 (0-2) GingivoPerioPlasty, 0.06 ± 0.28 (0-1) pre-maxillary setbacks, 0.07 ± 0.30 (0-2) fistula repairs, and 0.03 ± 0.17 (0-1) Velopharyngeal Insufficiency corrections.

Over an 8 year period, 12 NAM providers were trained in Ecuador, 7 provided treatment in Ecuador, and 5 provided treatment internationally, making Ecuador a site for information exchange. Follow-up for NAM patients was an average of 2.00 ± 1.77 (0.22 - 6.67) years after NAM initiation and 1.45 ± 1.77 (0 - 6.52) years after their primary Cleft Lip/Nose Repair. This includes continued long term follow up and comprehensive cleft care in addition to NAM therapy.

Conclusion: With yearly patient follow-up and year-round partnership with local professionals, our model shows successful long-term delivery of NAM therapy as part of a sustainable comprehensive cleft care strategy in outreach settings.

The Role Of Topical Tranexamic Acid (TXA) In Autologous Fat Transfer: A Single Institutional Outcomes Analysis And Considerations For Minimizing Postoperative Donor Site Ecchymosis

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