METHODS: We reviewed the records of 500 consecutive patients who underwent reduction mammoplasty.

RESULTS: Five-hundred patients were included in our analyses. The average age at the time of operation was 18.0±2.2 years. 389 (77.8%) patients received intravenous ketorolac in the perioperative period. Seven (1.4%) patients developed a postoperative hematoma: three were drained under local anesthesia, and four underwent surgical drainage in the operating room. Hematoma was not associated with intraoperative ketorolac use ($p=0.999$), postoperative ketorolac use ($p=0.432$), or any perioperative ketorolac use ($p=0.654$). The mean age, total resection mass, and intraoperative/postoperative ketorolac dose of patients did not significantly differ by hematoma status ($p>0.05$, all). Intraoperative use of ketorolac was associated with lower total dosing of intraoperative fentanyl ($p<0.001$) and morphine ($p=0.009$). Postoperative use of ketorolac was associated with lower total dosing of postoperative morphine ($p<0.001$).

CONCLUSION: Ketorolac use in our patient sample was associated with decreased perioperative opioid use, but not with hematoma formation. Ketorolac may be safe to use in adolescent reduction mammoplasty without increasing the risk of hematoma formation.

J.M. Firriolo: None. L.C. Nuzzi: None. L.C. Schmidtberg: None. B.I. Labow: None.

32

Persistent Opioid Use in Body Contouring Patients

Katelyn G. Bennett, MD, Brian P. Kelley, MD, Vidhya Gunaseelan, MS, MHA, Jennifer F. Waljee, MD, MS

University of Michigan, Ann Arbor, MI, USA

PURPOSE: Recent studies indicate that roughly 6% of opioid-naïve patients undergoing elective procedures develop new persistent opioid use. Body contouring is commonly performed to enhance quality of life and appearance, but opioid prescribing patterns among this population remain unknown.

METHODS: We examined insurance claims from OptumInsight between 2001 and 2015 for opioid-naïve patients undergoing five common body contouring procedures: abdominoplasty/panniculectomy, breast reduction, mastopexy, brachioplasty, and thighplasty (n=17,894). Our primary outcome included new persistent opioid use, defined as prescription fills between 90 and 180 days after the operation. We used multilevel mixed-effects logistic regression to assess the risk of new persistent use, adjusting for clinical and sociodemographic covariates.

RESULTS: In this cohort, 12.8% of previously opioid-naïve patients filled opioid prescriptions beyond 3 months after surgery. New persistent use was higher among older patients (ages 55–64, OR 1.53, CI 1.37–1.83) and those with greater comorbid conditions (Elixhauser score >3, OR 2.37, CI 2.08–2.71), as well as patients with depression (OR 1.28, CI 1.10–1.49), anxiety (OR 1.34, CI 1.20–1.51) neck pain (OR 1.21, CI 1.09–1.35), back pain (OR 1.48, CI 1.31–1.68), and other pain disorders (OR 1.92, CI 1.74–2.12). Income above $100K (OR 0.83, CI 0.70–0.97) and breast reductions (OR 0.42, CI 0.21–0.87) were protective against persistent use.

CONCLUSIONS: After body contouring surgery, more than 10% of opioid-naïve patients developed persistent use. Plastic surgeons must encourage opioid alternatives and optimize transitions of care in vulnerable patients.

K.G. Bennett: None. B.P. Kelley: None. V. Gunaseelan: None. J.F. Waljee: None.

33

Localized Injection Site Alopecia in Male Patients After Treatment of Submental Fat with ATX-101 (Deoxycholic Acid)

Sachin M. Shridharani, MD1, Akash Chandarwarkar, MD2

1Luxurgery, New York, NY, USA, 2Johns Hopkins, Baltimore, MD, USA

PURPOSE: Deoxycholic acid is approved for minimally invasive treatment of submental fat. Safety profiles from pivotal studies did not report on the potential adverse effect of localized alopecia. Knowledge about any potential adverse event (AE), including alopecia, is important for informed consent and setting patient expectations. This study is the first to characterize alopecia in patients undergoing deoxycholic acid treatment for submental fat and the
first reports to the FDA of this observed and unreported AE from the clinical trials.

METHODS: A retrospective review was conducted of 210 patients (82 male) treated with deoxycholic acid in the submental region at a single-center between January 2015-June 2017. Deoxycholic acid was injected into the preplatysmal submental fat (0.2 mL per injection of 10mg/mL to achieve a dose of 2mg/cm²) for a maximum of 6 treatments. Patient characteristics, treatment plan, and severity/resolution of alopecia was analyzed.

RESULTS: Alopecia was reported in 10% of male patients (none observed in female patients). Severity of alopecia in follow-up patients (n=8) ranged from diffuse/mild to 6 patches of alopecia, and was not associated with dose delivered or number of injections. Alopecia was noticed a median 31.5 days after injection (range 15–94 days). Five of eight patients reported improvement or complete resolution of alopecia. Six of eight patients experienced alopecia after the first treatment. Five of eight patients sought further treatment despite alopecia.

CONCLUSIONS: Alopecia is a real adverse event following treatment of deoxycholic acid for submental fat reduction in males that occurs approximately 1 month after treatment. Severity is not dependent on treatment plan, and is likely due to patient characteristics, anatomic considerations and injection technique. While a majority of patients had improvement or resolution, longer follow-up is needed to further assess the transiency of injection-induced alopecia. Importantly, a majority of patients continued to seek further treatment, suggesting patient-impact of this alopecia was low compared to the benefits of submental fat reduction.

Shamik Mascharak, AB, Leandra Barnes, AB, Elizabeth Brett, MS, Mike Hu, MD
MS MPH, Howard Chang, PhD, H. Peter Lorenz, MD, Michael T. Longaker, MD
MBA FACS

Stanford University, Stanford, CA, USA

PURPOSE: Early fetal wounds heal by regeneration; an important but poorly understood phenomena. Understanding the fetal wound healing mechanism could achieve scarless healing in human patients. In 2015, our group proved that Engrailed-1 (En1) positive fibroblasts (EPFs) are responsible for all scar tissue deposition in adult and postnatal mice. Additionally, these cells appear around the time of phenotypic change from scarless (embryonic day 0–16) to scarring (embryonic day 18+) healing. Given Engrailed-1 positive fibroblasts (EPFs) and Engrailed-1 negative fibroblasts (ENFs) share a common precursor cell, we hypothesized that the EPFs accumulate epigenetic changes over time that result in their phenotypic transition and result in a permanent cellular phenotype.

METHODS: Dorsal dermal fibroblasts from En1Cre/++; Rosa26mTmG/– mice were isolated at embryonic day (e)10, e16, e18, post-natal day (p)1, p30, and p30 wounded skin. EPFs and ENFs from these time points were sorted using Fluorescence-Activated Cell Sorting (FACS) and analyzed using the Assay for Transposase-Accessible Chromatin Using Sequencing (ATAC-seq). The data was then compared by time course analysis to generate a list of genes involved in fibrosis and to identify patterns of epigenetic change. E16 EPFs were then isolated by FACS and transplanted into a p1 host, and vice versa, to establish their intrinsic phenotype in vivo. Tissue was harvested 48 hours after transplant and analyzed using immunofluorescence to identify phenotypic differences based on cell type and microenvironment.

RESULTS: E10 fibroblasts are of a single lineage and were excluded from analysis. Time course analysis of e16-p30 EPFs and ENFs shows appropriate correlation between samples. Principle Component Analysis shows p30 EPFs and ENFs being the most dissimilar, and EPFs from p30 are most like e16 EPFs. Most epigenetic changes in the EPF lineage occur in embryonic development between e16 and e18, with fewer epigenetic changes occurring postnatally (significant peaks = 173 vs. 336). These epigenetic changes are correlated with open promoter sequences at e18, which then by p1 appear to be closed. In contrast, the ENF lineage

Analysis of Scar Forming Fibroblasts Reveals Distinct Changes in Epigenetic Accessibility During Times of Phenotypic Transition

Alessandra Moore, MD, Ulrike Litzenburger, PhD, Clement Marshall, MD, Ryan Chase Ransom, BS, Heather desJardins-Parks, AB, Bryan Duoto, BS,