RESULTS: Sixty patients completed the survey. The majority (92%) reported overall satisfaction with pain control. On a scale of 1–10, the average worst post-operative pain score was 6.4. The average pain score at the first post-operative visit was 2.3, with only 25% still taking opioids at that time. Opioids were discontinued in 58.6% of patients because they no longer had pain, in 20.7% because they had mild pain controlled with other analgesics, in 13.8% because they ran out of medication, and in 6.9% because they experienced intolerable side effects. Patients who underwent first-stage tissue expander-based breast reconstruction were prescribed the most opioids, but patients who underwent facial fracture repair consumed the most opioids. Patients who underwent soft tissue excisional procedures were prescribed the least and consumed the least number of tablets. The average number of tablets prescribed was 30, while the average number of tablets consumed was 17.

CONCLUSION: A balance between pain control and responsible prescribing of narcotic pain medications must be achieved. In most cases, pain was well-controlled with high rates of patient satisfaction. On average, patients received nearly twice the amount of pain medications that were used. This study can be used to guide prescribing practices of narcotic analgesics amongst Plastic Surgeons.

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Patient Demand for Plastic Surgeons for Every US State Based on Google Trends

Jared A. Blau, MD, MEd; Kelli R. Aibel, BS; Heather A. Levites, MD; Brett T. Phillips, MD, MBA; Scott T. Hollenbeck, MD

INTRODUCTION: In today’s healthcare market, patients have high levels of access to information and choice. As a profession, plastic surgeons must meet the public demand for aesthetic and reconstructive procedures. Patients often search for physicians using Google, the world’s most popular search engine. Google offers insights into patient needs through their search history.

METHODS: The Google Trends data, which reveal Relative Search Volumes (RSV), were pulled for all searches for “plastic surgery” from the June 2014–June 2015 periods. The RSV data are normalized using the total search volume per region. The number of active plastic surgeons per state, provided by the American Society of Plastic Surgeons (ASPS), was divided by the US Census Bureau population estimates for 2014 to achieve a surgeons-per-capita value for each state, or “surgical concentration.” The Google score was divided by this surgical concentration to yield a “surgical demand index” for each of the fifty states. Median two-family incomes were obtained from the Census Bureau.

RESULTS: Florida, New York, and Connecticut had the greatest surgical concentration of ASPS surgeons per ten thousand people (0.220, 0.217, and 0.209, respectively), and Wyoming, Arkansas, and Vermont had the smallest concentration (0.051, 0.071, 0.080). California exhibited the greatest number of Google searches (RSV=100), followed by Florida and Hawaii (RSV=95). Oregon (RSV=38), Virginia (RSV=52), and Alaska (RSV=58) had the lowest number of relative searches. The “surgical demand index” was greatest in Wyoming (1187.778), Oklahoma (993.751), and Arkansas (974.664) and smallest in Oregon (264.682), Virginia (320.716), and Connecticut (354.872). The number of surgeons-per-capita for each state positively correlates with the median income of that state ($r^2 = 0.22, p<.001$).

CONCLUSION: The distribution of US plastic surgeons is not homogenous with respect to population, with patient income likely driving location of practice. The Google search data suggest that some markets (e.g. Oregon) are saturated while others (e.g. Wyoming) have significant demand (as measured by internet search patterns) that is not met by the relative number of plastic surgeons in those regions.

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Approach to Management Using Evidence Based Medicine: Proliferative Breast Lesions Among Reduction Mammaplasty Specimens

Rachel M. Akintayo, MD; Kari M. Rosenkranz, MD; Wendy A. Wells, MBBS, MS; Emily B. Ridgway, MD

INTRODUCTION: Given the reported lifetime estimate of 1 in 8 women becoming diagnosed with breast...
cancer, it is standard perioperative practice for excised tissue obtained from routine reduction mammoplasty procedures to be sent for pathology review. On average, an estimated 0.2–1.1% of all reduction mammoplasty specimens reviewed by pathology is diagnosed with occult malignancy. On occasion, atypical proliferative lesion of variable malignancy potential is also reported, which may become an area of concern given the management of such lesions may be unfamiliar to plastic surgeons. We aimed to provide a review of commonly diagnosed proliferative lesions identified in routine reduction mammoplasty specimens and the best supporting evidence for their subsequent management.

METHODS: Retrospective literature review using a PubMed search of all English-language articles published between 1990 and 2016 containing the phrases (“reduction mammoplasty”, “breast reduction”, “proliferative”, “atypical”, “hyperplasia”, “ductal”, “epithelial”, “lobular”, “stromal” and “mesenchymal”) was completed. A total of 210 publications were generated after initial screening with 10 articles ultimately incorporated after comprehensive review.

RESULTS: Commonly encountered proliferative lesions among reduction mammoplasty specimens include pseudoangiomatous stromal hyperplasia (PASH), atypical lobular hyperplasia (ALH), atypical ductal hyperplasia (ADH) and flat epithelial atypia (FEA). PASH and FEA with no concomitant atypical ductal or lobular lesions confers no risk of subsequent malignancy and routine standard of care is recommended. ADH and ALH confer a four-five fold increased risk of subsequent breast carcinoma with increased risk among high risk individuals. For this patient cohort, current management strategies recommend referral to a breast program, biannual clinical exam, yearly mammography with breast MRI, genetic testing for BRCA 1/2 gene mutation with or without chemoprevention in higher risk individuals.

CONCLUSION: Our review provides important findings by highlighting the most frequently encountered atypical proliferative lesions among routine reduction mammoplasty specimens as well as current evidence supporting management strategies.

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REFERENCES:
1. American Cancer Society. Breast Cancer Facts & Figures 2013–2014. Atlanta: American Cancer Society, Inc. 2013
2. Clark CJ, Whang S, Paige KT. Incidence of preneoplastic lesions in breast reduction tissue: a pathology review of 562 consecutive patients. Plast Reconstr Surg. 2009;124(4):1033–1039. doi:10.1097/PRS.0b013e3181b45801.
3. Desouki MM, Li Z, Hameed O, Fadare O, Zhao C. Incidental atypical proliferative lesions in reduction mammoplasty specimens: Analysis of 2498 cases from 2 tertiary women’s health centers. Hum Pathol. 2013;44(9):1877–1881. doi:10.1016/j.humpath.2013.02.015.
4. Pitanguy I, Torres E, Salgado F, Viana GAP. Breast pathology and reduction mammoplasty. Plast Reconstr Surg. 2005;115(3):729–734; discussion 735. doi:10.1097/01.PRS.0000152683.62899.50
5. Slezak S, Bluebond-Langner R. Occult carcinoma in 866 reduction mammoplasties: preserving the choice of lumpectomy. Plast Reconstr Surg. 2011;127(2):525–530. doi:10.1097/PRS.0b013e3181fed5dc.

Liposomal Bupivacaine in Implant-Based Breast Reconstruction: Patient Outcomes and Economics

Saba Motakef, MD; Wendy W. Wong, MD; David Nguyen, MD; Izabela Galdyn, MD; Michael T. Chung, MD; Hahns Y. Kim, MD; Subhas C. Gupta, MD, CM, PhD

PURPOSE: The purpose of this study is to evaluate the role of liposomal bupivacaine in postoperative pain control following implant-based breast reconstruction, the effect of liposomal bupivacaine on postoperative opioid consumption and opioid related adverse events, and the effect of liposomal bupivacaine on length of hospital stay.

METHODS: A prospective, randomized, blinded trial of liposomal bupivacaine for postoperative pain management following implant based breast reconstruction was performed. This study consisted of two arms of patients undergoing immediate or delayed implant based breast reconstruction. Patients in the control arm were treated intra-operatively with injections with 0.25% bupivacaine and epinephrine, with 20 mL delivered to each breast pocket. Patients in the experimental arm were treated with one 20 mL, 266 mg vial of 1.3% liposomal bupivacaine, with 10 mL delivered to each breast pocket. Pain scores were recorded over the course of the patients’ hospital stay. Pain medications were converted to morphine equivalents.