$4,976,016 in 2014 to 253 plastic surgeons; $4,425,901 in 2015 to 295 plastic surgeons; $3,956,768 in 2016 to 246 plastic surgeons; and $5,110,970 in 2017 to 201 plastic surgeons. The third highest payment category was consulting fees: $2,932,708 in 2014 to 292 plastic surgeons; $2,746,140 in 2015 to 293 plastic surgeons; $3,500,132 in 2016 to 332 plastic surgeons; and $3,891,218 in 2017 to 461 plastic surgeons. For four consecutive years Allergan was the highest paying company.

**CONCLUSION:** While the PPSA has been implemented to provide transparency to patients regarding industry’s payments to physicians, its implementation was fraught with speculation that payment trends would change. The 2014–2017 PPSA data demonstrate that there have been minimal changes in payments trends to plastic surgeons over the past four fiscal years.

29

Prepectoral Direct-to-Implant Breast Reconstruction: Safety Outcome Endpoints and Delineation of Risk Factors

*Rachel E. Weitzman, M.S., Kassandra P. Nealon, B.Sc., Nikhil Sobti, B.A., Michele A. Gadd, M.D., Michelle C. Specht, M.D., William G. Austen, Jr., M.D., Eric C. Liao, M.D., Ph.D.*

*Massachusetts General Hospital, Boston, MA, USA*

**PURPOSE:** Immediate implant-based breast reconstruction is the leading technique for post-mastectomy reconstruction. Although implants are generally placed beneath the pectoralis major muscle, recent developments have allowed for implant placement above the muscle in a prepectoral plane. In fact, prepectoral breast reconstruction has been shown to mitigate complications associated with subpectoral breast reconstruction, including animation deformity and discomfort. Still, few studies have reported long term outcomes of prepectoral implant placement in the context of direct-to-implant (DTI) breast reconstruction. This study aimed to compare safety outcome endpoints between prepectoral and subpectoral DTI reconstruction. We hypothesized that prepectoral DTI breast reconstruction is a safe alternative to subpectoral DTI breast reconstruction.

**METHODS:** Retrospective chart review at a tertiary academic medical institution identified 115 patients who underwent prepectoral DTI reconstruction and 142 patients who underwent subpectoral DTI reconstruction over a 5-year period. Univariate analysis was performed to compare patient characteristics between both cohorts. A penalized logistic regression identified relationships between postoperative complications and covariate variables in each group.

**RESULTS:** A binomial regression model revealed that prepectoral DTI breast reconstruction is associated with lower risk of surgical site infection (p = 0.04) and lower risk of revision (p = 0.01) when compared to subpectoral DTI breast reconstruction. Rates of capsular contracture, explant, skin necrosis, and hematoma were comparable between groups.

**CONCLUSION:** This study compared the safety outcomes and risk factors in prepectoral and subpectoral DTI reconstruction patient cohorts. These findings support the hypothesis that prepectoral DTI breast reconstruction is a safe alternative to subpectoral DTI breast reconstruction, where the analysis revealed that patients who underwent prepectoral DTI reconstruction experienced lower rates of surgical site infection. It is speculated that the significant difference in surgical site infection may be due to decreased procedure time of the prepectoral procedure, or decreased dissection with preservation of the pectoralis major muscle and vascular network. Prepectoral DTI patients also presented with significantly lower rates of revision when compared to subpectoral DTI patients. Ultimately, this study demonstrated that prepectoral DTI breast reconstruction has a favorable safety profile when compared to subpectoral DTI reconstruction. Prospective study of prepectoral DTI is in progress to collect patient reported outcomes to further delineate safety and efficacy of this breast reconstruction approach.

30

Decreasing Opiate Use in Plastic Surgery: Does Use of Preoperative Bilateral Thoracic Paravertebral Blocks for Breast Reduction Surgery Reduce Opiate Exposure?

*Frank D. Lalezar, MD, Lyahn K. Hwang, MD, Amanda Rizzo, BS, Katie E. Weichman, MD*
Montefiore Medical Center, Bronx, NY, USA

PURPOSE: Decreasing total exposure to opioids in the operative and postoperative periods has become a focus of recent efforts to control the opioid crisis. Regional anesthesia, specifically, thoracic paravertebral blocks, have been shown in mastectomy to decrease pain and aid in early discharge; however, the use of this technique has not been explored in outpatient procedures such as breast reduction mammoplasty (BRM). Here we seek to determine the effects of thoracic paravertebral blocks on pain and opioid consumption in patients undergoing BRM.

METHODS: A retrospective review of all patients undergoing BRM by the senior author (KEW) between January 2016 and October 2018 was conducted. Patients were divided into two cohorts: Those who received bilateral paravertebral blocks pre-operatively in addition to general anesthesia and those who underwent general anesthesia alone. Patients were analyzed based on age, body mass index (BMI), total reduction weight, length of surgery, and medical comorbidities. The primary outcome measures were intra-operative and post-operative opioid consumption measured in morphine milligram equivalents (MME). Secondary outcome measures included postoperative pain, as rated on the numerical pain rating scale, immediately postoperatively and on postoperative day two, and duration of time spent in recovery prior to discharge.

RESULTS: One hundred and six patients were included for analysis (block n=58 (54.7%), no block n=48 (45.3%)). Age, BMI, reduction specimen weight, and co-morbidities did not differ between groups. Intraoperatively, opioid consumption was significantly lower in patients with paravertebral blocks (block 19.6 ± 11.7 MME, no block 24 ± 10.4 MME; p<0.001). Furthermore, length of surgery was significantly longer in patients who did not receive a block (block 175.1 ± 24.0 minutes, no block 185.8 ± 25.2 minutes; p = 0.027). In the immediate postoperative period, there was no difference in opioid consumption between groups (block 5.9 ± 4.4 MME, no block 5.2 ± 4.2 MME; p=0.381). However, a significantly higher proportion of patients without blocks received any dose of non-opioid analgesic for pain management (block n= 16 (27.6%), no block n=24 (50.0%); p=0.018). Patient-reported pain scores did not differ between groups in the immediate postoperative period (block 5.0 ± 3.6, no block 5.8 ± 2.0; p=0.264). Time to discharge of patients from the PACU was significantly lower in patients with paravertebral blocks (block 253.6 ± 94.5 min, no block 380±209 min; p<0.001). The cost of the paravertebral block ($215.64) was less than the cost of increased time in the PACU ($556.16).

CONCLUSION: Patients undergoing preoperative paravertebral block have decreased intraoperative opioid use as compared to those undergoing general anesthesia alone. In the postoperative period, patients having no block received more non-opioid pain medications but had similar postoperative pain and use of opioids. Of interest, both length of surgery and time to discharge from recovery are shorter in patients who underwent block. Additionally, the use of the paravertebral block was economically beneficial due to cost savings from decreased time in the PACU. Therefore, use of preoperative paravertebral blocks in concert with postoperative non-opioid analgesia is suggested and necessary to decrease overall opioid exposure, to reduce both operative and recovery time, and decrease healthcare costs.

31

A Systematic Review of Breast-Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL): Past and Current Knowledge

Hassan ElHawary, M.Sc1, Nebras Ghazawi1, Johnny Efanov, M.D2, Ali Izadpanah, M.D.2

1McGill University, Montreal, QC, Canada, 2University of Montreal Health Centre, Montreal, QC, Canada

PURPOSE: The rise in alloplastic breast reconstruction has revealed a rare but serious associated malignancy, breast-implant associated anaplastic large cell lymphoma (BIA-ALCL). The first case of BIA-ALCL was diagnosed in 1997, but due to the novelty and low prevalence of this condition, many unknown characteristics remain. The aim of this study was to systematically review the literature on BIA-ALCL and to reveal certain patterns in terms of patient demographics, presenting symptoms, geographical distribution, associated biological markers, and treatment options.

METHODS: PubMed, Google scholar and EBSCOhost were searched to find all publications pertaining to