Liposomal Bupivacaine Reduces Postoperative Narcotic Use in Patients Undergoing Abdominal-Based Autologous and Implant-Based Breast Reconstruction

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Purpose: Treatment of post-operative pain after breast reconstruction remains a significant challenge for plastic surgeons. Liposomal bupivacaine (LB, Exparel Pacira Pharmaceuticals, Inc., Parsippany, NJ) has been proven to effectively relieve pain in the immediate postoperative period. The purpose of our study is to explore the effects of intraoperatively delivered LB on postoperative narcotic use in women undergoing autologous and implant-based breast reconstruction.

Methods: Patients undergoing abdominally-based autologous reconstruction (n=37) or implant-based reconstruction (n=20) from August 2015 to January 2016 were injected with 266 mg of liposomal bupivacaine in defined locations along the chest wall, targeting intercostal nerves and incision sites. Patients undergoing autologous reconstruction additionally received a transversus abdominis plane block intra-operatively. All patients received patient controlled analgesia (PCA) and were transitioned to oral pain medication in the early post-operative period. Our previously published data on post-operative narcotic use after breast reconstruction, served as our control cohort. Patient-reported visual analogue pain scales, number of PCA attempts, and oral narcotic use were measured as primary outcomes. We modeled postoperative visual analogue scales, PCA attempts, and postoperative narcotic use over time using spline graphs for comparison between patients receiving LB and those who received traditional pain regimens.

Results: Total narcotic use in the immediate postoperative period is significantly decreased in patients who underwent autologous-based or implant-based reconstruction and received LB compared to those who did not receive LB ($p<0.001$). Oral narcotic use in the immediate postoperative period is significantly decreased in patients who underwent autologous-based or implant-based reconstruction and received LB compared to those who did not receive LB ($p<0.001$). There were no differences in self-reported visual analogue scale scores between treatment and control groups.

Conclusion: This study demonstrates that patients undergoing both implant-based and autologous-based breast reconstruction, who receive regional block with LB, use significantly fewer narcotics.