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INTRODUCTION

Exparel (bupivacaine liposome injectable suspension) is an extended-release form of Marcaine that has experienced growing interest in recent years for its reported ability to provide longer-lasting local analgesia effect than other local anesthetics, such as standard Marcaine (bupivacaine hydrochloride) injection. The purpose of the study was to compare the pain experience and opioid use after distal radius fracture (DRF) repair surgery performed with peri-operative infiltration of the local anesthesia Marcaine versus Exparel.

MATERIALS & METHODS

A prospective randomized comparison of consecutive patients scheduled to undergo DRF repair surgery was conducted. Patients were randomized to either Marcaine or Exparel. Patients in the Marcaine group received 20cc of 0.5% bupivacaine without epinephrine into the incision and surgical site prior to incision. Patients in the Exparel group first received 10cc of 0.5% of bupivacaine without epinephrine into the incision and surgical site prior to incision, then upon completion of the surgery and wound closure, also received 10cc of Exparel into the same site that had been pre-injected with Marcaine. All operations were performed with the same surgical technique by two participating surgeons. Daily opioid pill consumption, pain levels, and any adverse reactions were recorded from post-operative day 0 to day 5.



TABLE & FIGURE

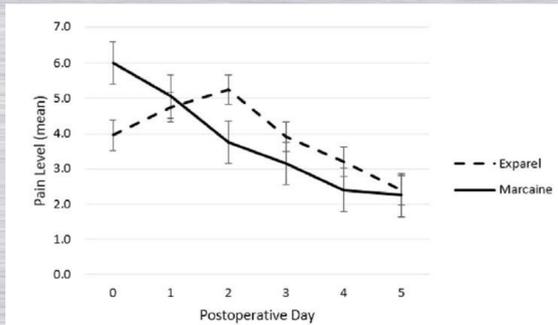


FIGURE 1: Postoperative pain levels for Exparel versus Marcaine.

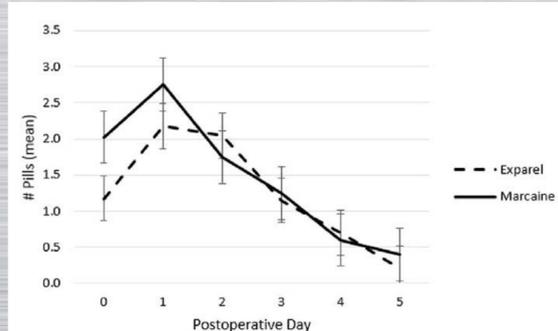


FIGURE 2: Postoperative pill consumption for Exparel versus Marcaine.

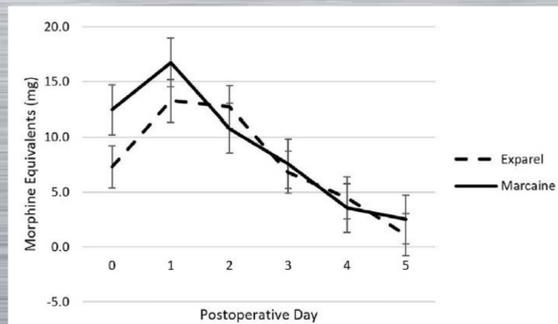


FIGURE 3: Oral morphine equivalents for Exparel versus Marcaine.



RESULTS

On the day of surgery, patients in the Exparel group reported significantly lower pain levels, 3.9 versus 5.8; and consumed significantly fewer prescribed opioid pills, 1.2 versus 2.0, compared to patients in the Marcaine group. However, there were no other significant differences between the Exparel and Marcaine groups on any of the subsequent days nor in the total number of pills consumed at the end of the study period, 7.5 v 8.9 pills, respectively. No major adverse reactions were noted in either group.

DISCUSSION

Exparel use was found to result in decreased pain and opioid consumption only on the day of surgery, but no difference in the following five days compared to patients who received Marcaine. Patients in the Exparel group also consumed fewer prescribed pain killer pills on the day of surgery, but there was again no difference in the following days compared to patients who received Marcaine. The use of Exparel for DRF surgery must be weighed against its cost versus Marcaine alone. Patients should be prescribed 10 or fewer opioid pills post-operatively after DRF repair surgery to avoid over-prescribing and potential diversion.