PERIOPERATIVE KETOROLAC IS ASSOCIATED WITH INCREASED POSTOPERATIVE BLEEDING IN REDUCTION MAMMOPLASTY

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Introduction: Ketorolac is a non-steroidal anti-inflammatory drug (NSAID) used to manage moderate to severe post-operative pain. The purpose of this study was to determine whether intravenous ketorolac administration significantly increased the likelihood of bleeding and/or hematoma formation when used perioperatively in reduction mammoplasty procedures.

Methods: Following REB approval, a retrospective chart review was conducted for patients who underwent reduction mammoplasty at our institution between 2004 & 2007. Data pertinent to demographics, ketorolac administration and bleeding-related outcome measures were recorded for each patient. 379 patient charts were reviewed, 127 patients had received a single dose of intravenous ketorolac (15 or 30 mg) intraoperatively or in the post-anesthesia care unit and 252 patients did not receive ketorolac.

Results: No significant differences were observed between groups in any of the demographic variables. The results for the bleeding-related outcome measures are presented in Figure 1. Ketorolac administration was associated with an increased requirement for emergency surgical hematoma evacuation (RR = 3.6, CI=1.4-9.6), operative site bleeding (RR = 3.0, CI=1.6-5.7), and documented hematoma formation not requiring surgery (RR = 2.2, CI=1.3-3.6).

Discussion: Our investigation revealed that perioperative ketorolac administration was associated with a greater than 3-fold increase in the likelihood of developing a hematoma requiring reoperation. To our knowledge, only one small study in which 5 patients received intramuscular ketorolac before undergoing reduction mammoplasty has been reported in the literature1. Our findings are consistent with this report. Given the frequency of reduction mammoplasty procedures (i.e., 88,3372 in the U.S and approximately 10,6963 in Canada during 2008), these data have potentially important implications. Our data suggest that it may be prudent to avoid the use of ketorolac in reduction mammoplasty, reserving it for those cases in which the benefits of its use may outweigh the potential risk of serious postoperative bleeding.