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Cover Page Footnote

Mrs. Ahrendes graduated from Emory University's Physician Assistant program in 2007, and will complete her Doctor of Medical Science degree from Lynchburg University in 2018. Working extensively in surgical specialties, she spent five years in vascular surgery, and the past six years practicing surgical, general, and cosmetic dermatology in Las Vegas, NV. The author indicates no relationships to disclose relating to the content of this article.

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Introduction

Patients undergo dermatologic surgery for a variety of reasons. Cases may be minor excisions with simple repair or extensive Mohs micrographic surgery (MMS) requiring involved flap reconstruction. Many patients develop some level of postoperative pain (POP) requiring oral analgesia and traditional methods of pain control include oral Acetaminophen (APAP) or an opioid such as APAP + codeine. Opioids are associated with unpleasant adverse events such as nausea, pruritus, constipation, altered mental status, and potential for addiction, thus requiring judicious use. Alternatively, Ibuprofen (IBU), a non-steroidal anti-inflammatory drug (NSAID), has a proven efficacy and tolerability profile, but its use is often discouraged by dermatologic clinicians for fear of increased bleeding during, and hematoma formation after, surgery. Evidence demonstrates, however, that there are not clinically significant increases in bleeding time, ecchymosis, or other postoperative adverse events when IBU is administered during the perioperative period.[1,2] Current dermatology guidelines recommend IBU as a first-line postoperative analgesic.[3,4] Despite these guidelines and current evidence, IBU is rarely recommended for pain control, or actively discouraged.[5] Given the need for prudent opiate use and effective pain control, IBU alone or in combination with APAP can offer superior analgesia, fewer adverse events, and greater patient satisfaction.[6]

Discussion

Dermatologic clinicians have lagged behind other surgical specialties in perioperative IBU analgesic use, and routinely counsel patients to stop NSAIDs, including IBU, up to one week before and after surgery. Fear of bleeding complications, such as prolonged intraoperative bleeding, increased ecchymosis, hematoma formation, and soft tissue or flap necrosis are reasons NSAIDs are held.[6] Such postoperative complications hold risks to soft tissue viability and can decrease aesthetic outcomes.[5] However, there are multiple reasons to consider

IBU analgesic therapy as first-line pain control treatment following dermatologic surgery.

NSAIDs are indicated for use in anti-inflammatory, antipyretic, and mild-moderate pain control. They are in the class of non-selective platelet cyclooxygenase (COX) inhibitors that work by blocking the formation of thromboxane A2, thus impairing platelet aggregation. Platelet COX inhibition by NSAIDs can be either irreversible or reversible. Aspirin irreversibly inhibits platelet aggregation and the effects last the life of a platelet, 7 to 10 days. IBU is a reversible inhibitor of COX with effects lasting 12 to 24 hours, at which point platelet function normalizes.[7,8]

It is well documented that IBU does lead to temporary platelet dysfunction. However, this does not appear to translate into clinically significant increased bleeding time, as measured by activated partial thromboplastin time (aPTT), until 16 times the recommended dose.[1] Clinically significant increased bleeding is not observed perioperatively or postoperatively at normal recommended doses.[1,2]

Traditional pharmaceutical practice in surgical dermatology has been to recommend APAP or an opioid analgesic as the primary medication for POP. Adherence to opioid analgesics is often inconsistent and may be associated with undesirable adverse effects, such as nausea, constipation, dizziness, pruritus, altered mental status, and potential for addiction.[9,10] Reduced compliance can lead to inadequate POP control.[6] In contrast to the opioid analgesic profile, IBU has a well-established patient tolerance, low-risk of abuse, low cost, and proven efficacy of pain and inflammation control. Current dermatology guidelines recommend opioids as second-line treatment only after an IBU or APAP trial following dermatologic surgery.[3,4]

Several studies in recent years have examined patient outcomes with IBU use alone, IBU + APAP, and APAP + Codeine (Co) in dermatologic reconstructions, including MMS flap reconstructions, and plastic surgery. IBU doses did not exceed the recommended daily maximum of 2400 mg. Aims of the studies included evaluation of efficacy and adverse event profiles of the regimens in management of POP.[5,6,9] Each of the studies evidenced similar findings. First, the effectiveness and superior pain control of IBU + APAP or IBU alone over APAP + Co.[5,6,9] Second, there is a significantly greater number of postoperative adverse events in the opiate group including bleeding, gastrointestinal problems, need for rescue medication, and dizziness.[5,6,9] Third, incidence of hematoma, ecchymosis, and postoperative bleeding were not increased in the patients receiving IBU.[6] Fourth, an overall high rate of patient satisfaction with IBU alone or IBU + APAP use.[11]

Conclusion

The United States has seen a dramatic increase in opioid misuse, overdose, hospital admission, and deaths over the last 20 years, and there is growing need to have safer and effective oral analgesic alternatives.[4] For many clinicians, IBU is a concern in dermatologic surgery for a variety of reasons. Potentially due to past beliefs, habit, misinformation, and fear of bleeding, it is routinely held prior to and after surgery. In light of evidence supporting its use, current dermatology guidelines outlining IBU or APAP use as first-line analgesia over opioids, and the high safety and tolerability profile, greater consideration for routine analgesic use should be given to IBU. For dermatological surgery patients, IBU is beneficial and current findings support its efficacy, safety, and recommend use.

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