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WILEY
Does a Single Dose of Pregabalin Help With Postoperative Pain After Septoplasty?

Ni Chen, BS; Christian Soneru, MD; Ashutosh Kacker, MBBS, MD

BACKGROUND
Nasal obstruction caused by a deviated nasal septum is a common problem dealt with in otolaryngology practice that successfully can be corrected with septoplasty in the majority of patients. To decrease the risks of postoperative complications, such as septal hematoma or postoperative bleeding, nasal packing traditionally has been used. However, nasal packing has been associated with increased postoperative pain, which may be due to the pressure exerted by the pack, surgical trauma to nasal mucosa, or the tension of sutures applied to the nasal septum.

Numerous pain medications, such as opioids, nonsteroidal anti-inflammatory drugs, acetaminophen, and regional blocks with local anesthetics, are prescribed to patients for acute postoperative pain in general. However, all these agents have potential side effects, such as nausea, vomiting, urinary retention, sedation, and respiratory depression.

Pregabalin is a lipophilic gamma-aminobutyric acid analogue with anticonvulsant, anxiolytic, and sleep-modulating properties. Pregabalin is used to reduce neuropathic pain, inflammatory pain, tissue irritation, neuralgia, and fibromyalgia. A number of studies have investigated the effects of pregabalin in the treatment of postoperative pain. This literature review specifically will look at the effects of pregabalin on postseptoplasty pain management. Of note, these studies focused on septoplasty postoperative management; therefore, these findings do not apply to other sinonasal procedures.

LITERATURE REVIEW
Because patients who undergo septoplasty usually experience maximum pain within the first 24 to 48 hours, it is critical to focus pain management on pain that occurs during this time period and for which preemptive analgesia can be used. Youssef et al. carried out a double-blind randomized placebo-controlled study in which 60 patients were randomized into three groups. The study drugs included paracetamol (100 mg), pregabalin (300 mg), and intravenous dexamethasone (8 mg) administered 1 hour before anesthesia (for the oral agents) or at the induction of anesthesia (for dexamethasone). Group A received paracetamol with placebo; group B received paracetamol with pregabalin; and group C received paracetamol, pregabalin, and dexamethasone. Outcome measures included pain intensity for 24 hours (assessed with a visual analogue scale [VAS]); requirement for rescue analgesia; and frequency of adverse effects, including postoperative nausea and vomiting (PONV) and dizziness. The results show that patients in group A had higher levels of pain at all time points, increased rescue analgesic requirement, and higher frequency of PONV compared to groups B and C. Comparison of groups B and C showed that group C had significantly lower mean pain scores at some time points (including at 24 hours). In addition, patients who received multimodal analgesia (group C) had lower rescue analgesia requirement during the first 24 hours after septoplasty. The authors concluded that a combination of paracetamol, pregabalin, and dexamethasone successfully reduced the overall pain scores and opioid consumption in patients after septoplasty, with no increase in side effects.

In another related study, Kim et al. studied the effects of pregabalin alone on postoperative septoplasty pain management. In this study, patients were randomized to receive pregabalin (150 mg) or placebo 1 hour before surgery and again 12 hours after the initial dose. All patients had nasal packing with cotton pledgets for 2 days postoperatively. Postoperative pain was assessed with a 11-point verbal numerical rating scale (VNRS) for 48 hours. Other outcome measures included PONV and amount of rescue analgesic needed. The results show that the pregabalin group had lower VNRS scores (less pain) and decreased rescue analgesic utilization compared to the placebo group. Based on the findings, the authors conclude that preemptive analgesia with pregabalin may have a beneficial effect on pain management after septoplasty.
In a similar study, Sagit et al. investigated the effect of using a single dose of perioperative pregabalin for managing postoperative pain and analgesic consumption in patients undergoing septoplasty. Instead of combining other pain medications in preemptive analgesia, two different doses of pregabalin were used for the study group. One hundred and forty-three patients undergoing septoplasty were randomized to take a single dose of pregabalin 150 mg, pregabalin 75 mg, or a placebo 1 hour before surgery. All patients had nasal packing that was removed after 2 days. The outcomes, measured for 24 hours, included a VAS scale, requirement for rescue analgesia, and adverse effects. The results show that postoperative VAS scores were significantly lower in both pregabalin groups for the duration of the study compared with the control group. The patients who took 150 mg of pregabalin had decreased VAS scores compared to those who took 75 mg at the later time points (12 and 24 hours postoperatively). In addition, the total rescue analgesic consumption was decreased in both pregabalin groups compared with the control group. The authors note pregabalin is a well-tolerated drug that has no known interactions with other drugs and can be rapidly absorbed. The authors suggest that a preoperative single dose of pregabalin 75 mg or 150 mg is an effective method for reducing postoperative pain in patients undergoing septoplasty.

Demirhan et al. further investigated the effect of the combination of pregabalin and dexamethasone on pain management after septoplasty. In this study, 90 patients were randomized to receive pregabalin (300 mg), pregabalin (300 mg) with intravenous dexamethasone (8 mg), or placebo. Pregabalin was taken 1 hour prior to surgery, whereas the dexamethasone was given at induction of anesthesia. A numerical rating scale (NRS) was used to assess pain for 24 hours after the procedure. Side effects and requirement of rescue analgesics also were recorded. Postoperative pain was lower in both treatment groups relative to the control group at all time points but only reached statistical significance in the very early time points (first 2 hours). Patients in both treatment groups had lower rescue analgesic consumption relative to the control group. No differences were seen between the treatment arms (pregabalin vs. pregabalin with dexamethasone) in either outcome measure. The authors found side effects of pregabalin to be tolerable and dose-dependent. Based on the findings, the authors suggest that using a single dose of pregabalin (300 mg) preoperatively can provide adequate analgesia for only the first hour post-septoplasty. However, the authors state that the addition of pregabalin to multimodal analgesic regimen reduces the overall consumption of opioids in patients post-septoplasty.

BEST PRACTICE
Pregabalin given 1 hour before septoplasty decreases postoperative pain and lowers the requirement for postoperative analgesics, with no significant increase in side effects. Although the optimal dose is unclear, doses of 75 mg to 300 mg have been used, and a single study showed that 150 mg leads to a greater improvement than 75 mg. The addition of IV dexamethasone to pregabalin may lead to a further decrease in postoperative pain and other analgesic utilization.

LEVEL OF EVIDENCE
The studies analyzed in this review are of level 1b and level 4 evidence.

BIBLIOGRAPHY