Opioid-Free Anesthesia Shows Benefit in Retrospective Studies

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Patients given opioid-free forms of anesthesia spent less time in the hospital following pancreatic resection and reported lower pain scores in a retrospective study of 77 patients.

Although opioids have long been a mainstay of pain control after pancreatic surgery, this approach is known to result in excess consumption of prescription painkillers, potential narcotic dependence, respiratory depression, nausea, vomiting, delayed gastric emptying and postoperative ileus, wrote Pierre Lafère, MD, of the Université Libre de Bruxelles, Brussels, Belgium, and colleagues in *BMC Anesthesiology*. For this reason, there is interest among clinicians in seeking to reduce patients' exposure throughout the surgical experience.

For these reasons, the authors looked into the feasibility of opioid-free anesthesia (OFA) for pancreatic resection. In their article, Lafère and co-authors described comparative postsurgical pain outcomes for 77 consecutive patients who had undergone pancreatectomy at a single center.

In 35 patients on an opioid-free regimen during surgery, the median pain score reported at 48 hours was 0 on a numerical rating scale (NRS) of 1-10, with scores ranging from 0-2. In 42 patients given opioid-based anesthesia, the median pain score at 48 hours was 3 on the same NRS, with scores ranging from 2-4.

In another beneficial outcome, the median length of stay was reduced by 4 days for the opioid-free group, who stayed 10 days compared with 14 days for the group given the opioid-based anesthesia.

In an email exchange, Lafère told Medscape that he hopes other researchers will conduct larger studies to see how well pain might be treated for surgical patients without opioids. "We are in need of good quality evidence to determine the best approach," Lafère said.

For the opioid-free anesthesia patients in this study, the standardized IV induction included propofol (1.5 to 3 mg/kg), lidocaine (1.5 mg/kg bolus with a

maximum of 100 mg) and rocuronium before tracheal intubation (0.6 to 1.2 mg/kg). In the group given the opioid-based approach, a target-controlled infusion (TCI) of remifentanil (3 to 5 ng/ml) was used. In the opioid-free group, patients received IV esketamine (0.25 mg/kg bolus) along with a continuous infusion of dexmedetomidine (0.5 µg/kg/h) started 10 minutes before induction.

"Consistent with other published reports, we found that introduction of an OFA protocol for pancreatic resection resulted in a 60% reduction in opioids requirement and NRS scores," the authors write.

For example, in a similar study, anesthesiologists at the University of Mississippi Medical Center looked at 50 patients who underwent the Whipple procedure (pancreaticoduodenectomy). They compared a traditional anesthesia approach with a combination of OFA and an enhanced-recovery-after-surgery (ERAS) approach they developed.

With ERAS, they sought to educate "patients on expectations and realistic goals of care and pain to educate and limit anxiety," write Bryan J. Hierlmeier, MD, and co-authors in a 2021 paper in the journal *Cureus*. "In other surgical specialties, such as orthopedic surgery, patient education was found to positively impact both postoperative narcotic usage and earlier cessation of narcotic following discharge."

Their research involved a retrospective cohort study via chart review of the OFA-ERAS approach vs a more traditional one. In an interview with Medscape, Hierlmeier said there is a drive to consider ways to spare even surgical patients from opioids.

The University of Mississippi team examined 50 cases, with half done prior to the implementation of the ERAS protocol, while the remaining 25 cases were conducted utilizing the narcotic-sparing anesthetic ERAS protocol.

In the group of patients given the narcotic-sparing regimen, hospital length of stay was decreased from 8.92 days to 5.72 days, a 3.2-day decrease compared to the control group. The number of ICU days also decreased from 1.52 to 0.42 days on average, they reported.

Like Lafère, Hierlmeier said there is a need for a prospective study comparing more traditional and opioid-sparing approaches. He describes it as part of a shift that may happen in the culture of anesthesiology.

"We were taught to give narcotics for pain control. And now we're kind of flipping the gears and saying, 'Hey, there are other medications that we can use to control pain that are not narcotics' " he said.

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