COVID-19 driving move to regional anesthesia

Cancellations of some surgical procedures during the COVID-19 pandemic and case rescheduling have been a major focus for perioperative leaders, but changes are also occurring in anesthesia practices.

For many surgical procedures, the use of regional anesthesia or nerve blocks, coupled with light sedation, is reported to double if the UK's National Health Services plan succeeds to "slash its mounting waiting lists and reduce risk of covid-19." Regional anesthesia is administered by injecting an anesthetic near the nerve, numbing only that specific area of the body. Regional anesthesia is now recommended for hip and knee replacements, some hernia operations, minor gynecological procedures, and surgery for hemorrhoids—as well as shoulder, arm, hand, knee, and foot injuries.

In its continuous form, regional anesthesia is achieved by placing a catheter to modulate anesthesia for hours or days. A patient's willingness to receive regional anesthesia may shorten the wait time for surgery and reduce COVID-19 risks to the patient and the surgical team.

Reducing risk of OR exposure

Studies show that manipulating the airway by inserting and removing a breathing tube or laryngeal masks, as is required for general anesthesia, produces viral particles that could spread COVID-19 to OR staff. According to one UK study, 3% of OR staff become infected with COVID-19 when exposed to an infected patient. OR exposure has led to a review of procedures and a new set of anesthesia practice guidelines.

For example, from time to time, some surgery centers where primarily elective procedures are performed have been ordered to close. As of March 2021, worldwide 28.4 million elective operations were canceled worldwide.

Although closing a facility reduces exposure, few surgery centers are purely elective, and many of them handle emergent trauma cases. In addition, the redeployment of physicians, surgeons, and nurses to the front line is not frictionless. Legal and economic constraints govern where these professionals are able to work. The closure of elective surgery centers tends to idle medical professionals without enhancing the resources available to treat patients infected with COVID-19.

Patient satisfaction tends to be higher with regional anesthesia.

With few exceptions under the new guidelines that have been implemented during the pandemic, patients over 18 years of age are not allowed to be accompanied when they are admitted for surgery. The surgery center must receive a negative COVID-19 test result for these patients 24 hours before admission. Because of test delays, some patients have had to wait in their cars in the parking lot for test results to arrive while ORs, surgeons, and anesthesiologists stand idle. Patients with a positive COVID-19 test may be required to reschedule or cancel their elective procedures. Either way, ORs must stand empty for an hour to allow air exchange to clear viral particles before the next surgical case.

"It is not just about the surgery itself," says Katie Vieux, BSN, RN, director of nursing at Audubon Surgery Center, Colorado Springs, Colorado. "The arrival of COVID-19 has greatly expanded the need for careful planning, staffing challenges, and training, as well as clinical compliance."

It would not be unusual for patients undergoing surgery in the pandemic to be offered a local or regional anesthesia option. "Increasingly, when appropriate, I offer regional anesthesia to my patients—either in combination with general anesthesia or on its own, coupled with mild sedation," says Sundar Rajendran, MD, an anesthesiologist at Audubon Surgery Center. "The benefits of not manipulating the airway, as is required for general anesthesia, protects everyone. Recovery is faster and more pleasant. There is also an opportunity, using innovative regional nerve block techniques, to manage postsurgical pain without oral opioids."

Research shows that patients given a local anesthetic are less likely to be infected by COVID-19. Other benefits include fewer side effects such as prolonged sedation, nausea, and vomiting, as well as faster discharge. Some patients may have the option to take a compact indwelling catheter home that manages pain for 72 hours or longer. Once the patient is home, the need for the use of oral narcotics may be greatly reduced or eliminated altogether.

"From a nurse's perspective, we see fewer difficult recoveries after surgery. Patient satisfaction tends to be higher with regional anesthesia. In order to manage pain, new approaches allow us to modulate medication, use less medication, and to track patients during home recovery," Vieux says. According to the Centers for Disease Control and Prevention, eliminating opioid use during the first 3 days after surgery dramatically reduces the potential of addiction that takes the lives of 38 Americans per day.

Ease of use, new guidelines

The ease of use of new technologies, coupled with the new guidelines, is motivating anesthesiologists who do not routinely offer continuous regional nerve blocks to place them. The arrival of ultrasound visualization, along with preci-

sion catheter placement of an over-the-needle device, can achieve numbness in the desired area in less than 5 minutes with the same ease of motion as standard single-injection nerve blocks. The catheter remains in place to permit increases or decreases in anesthetic before, during, and after surgery. Lower doses are required because additional anesthetic may be added as needed.

After the patient is discharged from the hospital or surgery center, a pump may be attached to manage pain at home for the next few days.

Some analysts project that the use of regional anesthesia may increase as much as 10-fold within the next decade with the introduction of devices that are as easy to place as a routine injection. The pandemic has sped up the rate of adoption of certain trends that were already in place before it arrived. Regional anesthesia has always made sense, but with a poignant new need to reduce exposure to COVID-19—coupled with technology that makes it far easier to use—it is here to stay. The benefits include reduced anesthesia risk, higher patient satisfaction, lower costs, reduced exposure to COVID-19, and reduced or eliminated oral narcotics.

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