

Femoral Blocks a Boon For Hip, Knee Surgery

by Dana Hawkins-Simons

Femoral blocks offer wide-ranging benefits after knee and hip replacement, from reducing pain during early recovery to lowering health care costs, new research has found.

Three new studies presented at the 2012 annual meeting of the American Academy of Orthopaedic Surgeons highlighted the advantages of femoral blocks over other anesthetic approaches in these patients. They showed that femoral blockade can spare patients from opioid-related adverse effects, reduce the need for joint manipulation after surgery and hasten discharge from the postanesthesia care unit (PACU).

"I applaud the efforts of these investigators, because we need more data on the benefits and risks of femoral nerve blocks," said Brian M. Ilfeld, MD, MS, associate professor of anesthesiology at the University of California, San Diego, who was not involved in the studies. "We recognize there are sometimes complications with any invasive procedure, including regional anesthetics, so the more data we have, the more information we can provide patients."

Femoral Blockade Versus Periarticular Injection

One of the studies (abstract P201) compared two widely used protocols for perioperative pain management after total knee arthroplasty (TKA). The prospective, randomized controlled trial enrolled 90 patients. Half received epidural analgesia plus femoral nerve block (PCEA/FNB); the rest received periarticular injections plus oral opioids (PAI).

Patients in both protocols had similar lengths of stay in the hospital and similar postoperative pain scores. However, patients who received PCEA/FNB reported significantly less pain with ambulation on postoperative day 1, and less pain with regard to quality of recovery. Patients in both groups reported similar pain levels on the second and third days after surgery. The researchers also found no significant differences between the groups in global quality of recovery scores, patient satisfaction or opioid intake.

"We were surprised that PAI worked almost as well as PCEA/FNB," said Geoffrey H. Westrich, MD, orthopedic surgeon at the Hospital for Special Surgery in New York City, who led the research. "We can now tell smaller hospitals that don't have our level of expertise that PAI works extremely well; much better than just giving pain pills after surgery."

The PAI approach also is less expensive than PCEA/FNB, and Dr. Westrich noted that he would consider trying the protocol in his surgical practice. However, he added, a multimodal approach to pain management works best.



“One of the most common concerns patients have is how much pain they’ll experience and how we’ll treat it. They like the control they have with a pain pump,” he said.

Dr. Ilfeld said the study was an important addition to the data set on FNB. “It has become a trend for orthopedic surgeons to try high-dose local anesthetics,” Dr. Ilfeld said. “But we don’t have adequate data. This study sheds more light on what’s optimal for patients after TKA for pain control.”

Easier Recovery



In a second, unrelated study (abstract P195), researchers at New England Baptist Hospital, in Boston, found that regional anesthesia, including continuous FNB, significantly improved patients’ postoperative range of motion and reduced their need for manipulation following TKA.

The retrospective review looked at 1,091 TKA procedures performed by two surgeons using identical prostheses, postoperative rehabilitation protocols and surgical techniques. The surgeries occurred both before and after the hospital’s anesthesiologists began using continuous femoral nerve catheters.

Before the catheters became routine, 12% of TKA patients required manipulation after surgery. That figure fell to 6% once the catheters became widely used. The decrease was independent of the surgeon.

“Because manipulation is expensive—if you avoid it, you easily more than make up the cost of the infusion,” Dr. Ilfeld said. “The results demonstrate a need for a large, prospective randomized trial.”

Femoral Block or Morphine?

In a third, unrelated study (abstract 666), researchers at the Hospital for Joint Diseases at NYU Langone Medical Center, in New York City, found that single-injection FNBs are an excellent alternative to routine narcotic pain medication after hip arthroscopy.

In the study, 40 patients were randomized into two groups once they reached the PACU. Half received routine IV opioids if their pain scores were 7 or greater; the rest received a femoral block for pain of the same severity.

Patients who received opioids stayed in the PACU longer, were more likely to report postoperative nausea and reported being less satisfied with their postoperative pain control than patients in the FNB group.

“An hour decrease of PACU time is enormous, and provides a huge cost savings,” Dr. Ilfeld said. “These are important results because we don’t have a lot of data looking at post-op outcomes other than pain, and how they benefit patients and the entire health care system.”