

SPINAL MORPHINE ANESTHESIA

Kieran T. Mahan, DPM

James Wang, DPM

Spinal anesthesia is commonly used in foot and ankle surgery. This type of anesthesia has the advantage of avoiding general anesthesia for patients who have either a physical or psychological condition which contraindicates general anesthesia. Complications, such as urinary retention, can occur with spinal anesthesia as well.

The genesis of this study is the use of a particular kind of spinal anesthesia, specifically, spinal morphine anesthesia. Spinal morphine anesthesia combines traditional intrathecal spinal anesthesia with an injection of a small amount of morphine to provide postoperative analgesia. This technique is being used for a variety of patients, including those with nerve entrapment pathology. Because of a perceived high incidence of urinary retention following spinal morphine anesthesia, the authors elected to review forty consecutive patients who received general anesthesia, and forty consecutive patients who received spinal morphine anesthesia to examine the complications of each technique.

In this study, the spinal local anesthesia solution consisted of a tetracaine dextrose combination, with epinephrine added if the length of the case was to be longer than two hours. From 0.2 - 0.4 mg intrathecal morphine was administered in forty consecutive patients. Endotracheal intubation utilizing isoflurane, was used on 40 consecutive general anesthesia patients. A variety of other factors including gender, age, duration of anesthesia in surgery, urinary retention, pruritus, nausea and vomiting, headache, and use of analgesics within the first twenty-four hours, were also recorded.

The review indicated that there were two major differences between these two groups: urinary retention, and requirement of analgesics.

Urinary retention occurred in 25% of the spinal morphine patients, whereas general anesthesia patients had an incidence of 7.5% urinary retention. Only 10% of the spinal morphine anesthesia patients required analgesics during the first 24 hours postoperatively, whereas 90% of the general anesthesia patients required analgesics during the first postoperative 24 hours. These figures represent statistically significant differences.

There are two important points to remember with respect to the use of spinal morphine anesthesia. First, the morphine should be used in a non-preservative form in order to prevent neurolysis or arachnoiditis. In addition, respiratory depression, although uncommon, can occur following the administration of spinal morphine anesthesia. Therefore, its use generally requires 24 hours of close postoperative monitoring. All of the patients in the study were followed for 24 hours in the intensive care unit or in the progressive intensive care unit. No incidence of respiratory depression occurred.

Spinal morphine anesthesia is particularly useful for patients with chronic pain syndrome such as entrapment neuropathies. Those patients who have experienced chronic pain are particularly aided by twenty-four hours of good analgesia.

Although the cases of urinary retention in our study were easily treated, there are a variety of steps that can be performed to minimize its occurrence. These steps include careful monitoring of fluid load, and more importantly, insuring that the patient voids preoperatively. For particularly long cases, especially in spinal morphine patients, a perioperative Foley catheter is used. The catheter is inserted preoperatively and removed within 24 hours of surgery.