

## Letters to the editor

### **Sciatic nerve palsy after total hip arthroplasty in a patient receiving psoas compartment block for patient-controlled regional analgesia**

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*To the Editor:* With the expanded role of regional analgesic techniques, the finding of a new neurologic deficit in the postoperative period must be jointly investigated by the anesthesiologist and the surgeon. We report a case of late-onset sciatic palsy after total hip arthroplasty (THA) in a patient receiving psoas compartment block for patient-controlled regional analgesia (PCRA). A 46-year-old woman with degenerative joint disease presented for left THA. Before surgery, a perineural catheter was inserted into the psoas compartment, using a peripheral nerve stimulator [1], and 40 ml 0.25% bupivacaine with epinephrine was injected. The distribution of the sensory block was detected over the obturator, femoral, and lateral cutaneous nerves. The patient underwent an uneventful THA under general anesthesia. Postoperative analgesia included patient-controlled analgesia (PCA) boluses of 10 ml 0.125% bupivacaine, with a lockout time of 60 min. Diclofenac was given intramuscularly two times daily. On the second postoperative night, she complained of severe pain in the left thigh and the posterior of the left knee. Neurologic examination revealed sensory block on the dermatome of the femoral nerve. PCRA was discontinued to aid in further neurologic evaluation, and she was given access to IV morphine PCA. On the following morning, there was profound loss of sensory and motor function in the distribution of the tibial and common peroneal nerves. Surgical exploration showed annular constriction of the sciatic nerve with a suture. One-year follow-up demonstrated fair return of motor function; weak plantar flexion, dropped foot, and painful dysesthesias were shown.

The exact etiology of nerve palsy after THA has always been difficult to identify with certainty [2]. The first sign of a developing problem in this patient was the sudden onset of severe pain despite a previously effective lumbar plexus block. Diagnosis was aided by the presence of a sciatic nerve deficit,

which strongly suggested that the pain was of sciatic origin. Our case demonstrated the value of using peripheral neural blockade isolated to a limited distribution. A continuous central regional blockade could have masked the injury of the sciatic nerve. During a psoas compartment block, partial blockade of the sacral plexus may occur, with or without epidural spread of the local anesthetic [3]. According to our clinical observations, an initial high volume of the anesthetic may result in a partial unilateral block of the sacral nerves without epidural spread, but this is unlikely during continuous block with low anesthetic volumes. Ben-David et al. [4] reported sciatic nerve palsy after THA in a patient receiving continuous psoas compartment block; with the aid of an isolated nerve block, the nerve injury, due to a hematoma, was detected early and rapid intervention provided complete recovery in 48 h. The prognosis of a nerve palsy is generally related to the severity of the injury [2]. In our patient, the neurologic deficit was still present at the end of 1 year.

The incidence of neurologic complications during psoas compartment block has not been exactly defined, as large series of case studies are lacking. The nerve injury after peripheral nerve block is often expressed as persistent dysesthesia; in most cases, symptoms are mild, patients recover relatively quickly, and long-term complications are rare [5].

The present case illustrated the importance of understanding the potential complications, not only of the analgesic technique but also of the surgery. Clinicians must be aware of the risk of neuropraxia associated with this procedure, and must follow the patient's neurologic function closely in the postoperative period.

### **References**

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