Reviewer's report

Title: Epidural lipomatosis and congenital small spinal canal in spinal anesthesia: a case report

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Reviewer: Nihls Dahlgren

Comments to authors:

This article presents a case with neurological deficit after spinal anesthesia for caecareen section in a fat female weighing 130 kg with a preoperatively normal neurologic status. A midline approach at the L3/4 was used and 9 mg of hyperbaric bupivacaine, 5 mg/ml was injected. A blocking level that reached T5 was recorded. The anesthesia record did not notice any complications for the procedure, but the patient stated afterwards that she had experienced a preesthesia in her right leg during the blocking procedure. Regress of analgesia was slow and left the patient with a neurological deficit comprising the right nerve roots L4, L5 and S1.

Postoperative MRI revealed a tight lumbar dural sac due to a narrow spinal canal and an excessive amount of epidural fat. The patient still complained of right leg weakness four months after the spinal blockade.

Epidural lipomatosis is thoroughly discussed in the paper. So far, this anatomical abberation has only been described in about 100 patients. Diagnosis demands an MRI examination. Increased body mass is stated as the main factor of risk for this deviation from spinal normality, that might pass without any neurological symptoms.

The authors discuss the risks for neurological complications due to a decreased volume of CSF in the distal part of the dural sac.

The presentation puts the anesthetic reader in a conflict, since increased body weight promotes postoperative complications that are significantly reduced by the use of regional anesthesia, for example spinal blockade.

MRI of the lumbar spine will most probably not be a routine examination for the adipose part of our patients presenting for surgery. Thus, this article makes up a reference to the possible explanation of neurological complications in spinal anesthesia of theoretical interest.