

## Misdiagnosis of an early postoperative upper limb deficit

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To the Editor:

A 35-year old, 164-cm, 57-kg, ASA-1 woman underwent rectosigmoidectomy for infiltrating endometriosis. Surgery lasted 540 min, in the supine position on a vacuum mattress that molded to the contour of the patient. The right arm was positioned alongside the body. The left arm position was abduction  $<80^\circ$ . The following morning, the patient reported an inability to move all five left fingers, as well as numbness of the palmar hand surface. Neurological examination disclosed a loss of sensation to light touch at the palmar surface of all five fingers of the left hand and was otherwise normal. Due to the lengthy duration of the procedure, an intraoperative positioning injury was presumed to have caused this neurologic deficit [1]. No immediate electromyography was required. Sensory and motor function had returned to normal 5 days after surgery.

Approximately 6 weeks later, the patient complained about the reoccurrence of upper left limb symptoms, as well as a new area of hyperesthesia on the inner side of the left thigh. Decreased reflexes were recorded in the left knee and ankle joints, and in the left upper limb. Blood screening for infectious, systemic, inflammatory, autoimmune, and collagen vascular diseases was negative [2]. Cerebrospinal fluid examination showed (a) a normal albumin level and no cells and (b) one IgG-kappa and two IgG-lambda monoclonal bands in the light chains and three oligoclonal IgG bands, which were not detected in serum [2]. Magnetic resonance imaging (MRI) showed several ovoid lesions at C2, C3–C4, C6, T1–T2–T3–T4, and T8–T9 [3]. Medulla morphology was unaltered. Hyperintense signals from the white matter of the supratentorial region of the brain were observed [3]. An inflammatory disease of the central nervous system (CNS) was diagnosed [2]. All the neurological symptoms spontaneously resolved in 3 weeks. Five months later, neurological symptoms recurred. The MRI detected additional periventricular lesions of increased signal intensity and one subcortical lesion in the right frontal lobe together with annular enhancement of the left-posterior periventricular lesion [3]. Multiple sclerosis (MS) was diagnosed [2, 3].

The initial neurological deficit was assumed to be a result of an intraoperative positioning injury [1]. Long-duration surgery associated with frequent head-up and head-down repositioning can contribute to positioning injuries [1]. In retrospect, clinical features of MS, which is a relapsing and remitting rare autoimmune demyelinating disorder of the CNS, commonly affecting women of about 30 years of age, were present [4]. Most reports of postoperative MS exacerbation are anecdotal or consistent with baseline and exacerbation rates occurring in non-surgical patient populations [4]. Epidural analgesia did not increase the risk of neurological deficits in parturients with MS [4].

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Analogous to the post-partum situation, one might speculate that the hormonal changes following the removal of endometrial tissue caused the onset of MS symptoms or a relapse of subclinical MS in this patient [5]. Importantly, consistently assuming that the onset of a neurological deficit in the early postoperative period resulted from an intraoperative injury can result in a serious misdiagnosis with potential medical-legal implications.

**Institutional Review Board (IRB) Approval:** The local IRB, “Comité de Protection des Personnes, Ile de France3,” reviewed the case report and, according to French regulations, gave written authorization to publish the report without requesting the patient’s consent (letter of 5 April 2012, signed by Prof. B. Christoforov, President of the “Comité de Protection des Personnes, Ile de France3”). Also, written consent was obtained from the patient to publish this clinical report.

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