

Femoral nerve injury following oophorectomy

Introduction

Postoperative femoral neuropathy has received scant attention in gynaecological literature. Its occurrence following pelvic surgery is disturbing for both patient and surgeon. The incidence of femoral nerve injury after abdominal hysterectomy is reported as between 7.45% and 11.6% (Kvist-Poulsen and Borel, 1982; Goldmann et al, 1985), but the true incidence is unknown since some minor femoral nerve injuries either improve spontaneously and are of short duration, are not reported by the patient or go undetected by the physician.

Medline was searched for 'femoral nerve injury' between 1966–2004: 20 relevant articles were found, and 14 relating to abdominal or pelvic surgery were reviewed.

Discussion

Femoral neuropathy after gynaecological surgery may occur as a result of pressure from the lateral blades of a self-retaining retractor on the psoas major muscle and femoral nerve 4 cm proximal to its point of entry into the thigh. This nerve arises from the dorsal rami of the anterior division of the second, third and fourth lumbar vertebrae. It courses obliquely within the sub-

stance of the psoas major muscle and leaves the muscle at its lower lateral border.

The femoral nerve then descends into a groove between the psoas major and the iliac muscle. It supplies motor branches to the psoas and iliacus and then courses posterolaterally to the external iliac vessels and descends into the thigh through the femoral canal beneath the inguinal ligament. It provides motor branches to the quadratus femoris, pectineal and sartorius muscles and sensory innervation to anterior and medial aspects of the thigh.

Patients with this injury classically present with a fall from the bed when trying to walk postoperatively. Vosburg and Finn (1965) attributed this injury to three factors:

1. Use of a self-retaining retractor
2. Transverse, muscle-retracting suprasymphysial incision of the Pfannenstiel type
3. Bodily constitution of the patient.

McDaniel et al (1963) confirmed these findings and recommended padding the lateral blades of the retractor and selecting a blade appropriate for the patient's build.

After two 5-year studies, Goldman et al (1985) found that in one group of women who underwent pelvic laparotomy where a self-retaining retractor was used, 7.45%

suffered pelvic neuropathy, compared with 0.7% of women whose procedure was performed without the aid of a retractor.

Kvist-Poulsen and Borel (1982) ruled out the type of incision, length of surgery, body weight, extent of operative procedure and the surgeon's experience as specific pathogenetic factors. They recommended that the relationship of the lateral retractor blade to the psoas muscle should be determined repeatedly during the operation, and in prolonged operations recommended frequent release of the retractor pressure.

Rosenblum et al (1966) concluded that femoral neuropathy was not caused by stretching the nerve but by local ischaemia of the femoral nerve caused by constant pressure on the psoas muscle.

Conclusions

Even when these preventive strategies are followed, neuropathy might still occur. The authors conclude that the current case resulted from the pressure from retractors. They emphasize the importance of recognizing femoral neuropathy as a complication of gynaecological surgery and minimizing this through careful retractor placement, selection of an appropriate blade size and proper patient positioning. **BJHM**

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Case Report

A 46-year-old woman attended the gynaecology clinic complaining of right iliac fossa pain and dyspareunia of 18 months duration. Her symptoms were gradually worsening. She had a history of hysterectomy and left salpingo-oophorectomy for menorrhagia caused by fibroids.

The patient had a body mass index of 29. Bimanual pelvic examination revealed right adnexal fullness which was confirmed on ultrasound scan to be an ovarian cyst. After appropriate counselling a right oophorectomy was planned. The procedure was performed through a transverse suprapubic incision. During the operation the abdominal wall was held apart with a self-retaining retractor. It was not necessary to open the retroperitoneal space because the ovary was lying adherent to the vaginal vault peritoneum. The procedure was uneventful.

In the immediate postoperative period she complained of pain in the right anterior and medial aspect of the thigh. She also showed signs of significant intraperitoneal bleed and developed mild haematuria.

Repeat exploratory laparotomy was performed to stop haemorrhage. On the fourth postoperative day she fell down when attempting to walk. She described pain and numbness in the right anterior thigh extending from the inguinal crease and distally to the knee and slightly below the knee on the lateral border.

Following recovery from surgery a specialist neurological examination showed weakness of right hip flexion and knee extension, absence of the right knee jerk, and anaesthesia over the anterior and medial aspects of the right thigh. A right femoral neuropathy, presumed secondary to the surgical procedure, was diagnosed. Peripheral neurophysiological studies showed acute denervation of the right vastus lateralis with a marked loss of motor units confirming the clinical diagnosis. The patient started physiotherapy and was treated with amitriptyline and tramadol for her pain. After 8 months there was appreciable improvement in her symptoms. She was started on gabapentin and remains under follow up in a pain clinic.

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