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ORIGINAL ARTICLE

Pudendal nerve neuralgia after hip arthroscopy: Retrospective study and literature review

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KEYWORDS
Hip arthroscopy;
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Summary
Introduction: Pudendal nerve neurapraxia is a classic complication after traction on the fracture table. Diagnosis, however, is difficult and often overlooked, especially after arthroscopy in traction on fracture table; incidence is therefore not known exactly.
Hypothesis: The study hypothesis was that incidence of pudendal nerve neuropathy exceeds 1% after hip arthroscopy.
Materials and methods: Results for 150 patients (79 female, 71 male) undergoing hip arthroscopy between 2000 and 2010 were analyzed retrospectively. The principal assessment criterion was onset of pudendal neuralgia. Secondary criteria were risk factors (history, surgery time, type of anesthesia), associated complications, onset to diagnosis interval and pattern of evolution.
Results: At a mean 93 months' follow-up, there were 3 cases (2 women, 1 man) (2%) of pure sensory pudendal neuralgia; 2 concerned labral lesion resection and 1 osteochondromatosis. Surgery time ranged from 60 to 120 min, under general anesthesia with curarization. Time to diagnosis was 3 weeks. No complementary examinations were performed. Spontaneous resolution occurred at 3 weeks to 6 months. No significant risk factors emerged.
Conclusion: The present study found 2% incidence of pudendal neuralgia, with no risk factors emerging from analysis. Prevention involves limiting traction force and duration by using a large pelvic support (diameter > 8—10 cm). Patient information and postoperative screening should be systematic.
Level of evidence: Level IV. Retrospective study.

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Introduction

Pudendal neuropathy is a classic complication of orthopedic surgery involving traction on fracture table [1—3]. The physiopathologic mechanism is nerve compression of varying intensity. It should be suspected in case of onset of stereotypic perineal symptoms (sensory and/or sexual disorder) following orthopedic surgery involving traction on fracture table [4]. Evolution is generally favorable within 6 months of surgery, although definitive sequelae are possible [3]. Diagnosis, however, is difficult and may be overlooked. The present study hypothesis was that incidence is underestimated and in fact exceeds 1% [5]. The principal objective was therefore to describe the incidence of pudendal neuralgia following hip arthroscopy, and the secondary objectives were to look for risk factors and to determine the intervals to onset and to diagnosis and the type of resolution.

Material and methods

Patients

A retrospective study included all 150 patients in our center's database (Fusion-CCAM software) who had undergone hip arthroscopy between January 2000 and June 2010. All patients were operated on by a single experienced surgeon (PC).

Procedure

Patients were placed in supine position on the fracture table (Alphamaquet1150®, Sweden) with both feet on a cushion. Moderate manual traction was exerted on the non-operated side, with a pelvic support of 5 cm before 2002, increased to 8 cm after 2002. The operated hip was positioned in 30° adduction-internal rotation-flexion. Under fluoroscopy, the iliac crest and trochanter were located, and limb traction was applied after anterolateral intra-articular injection of 20 cc of physiological saline using a Tuohy needle [6]. Traction was considered satisfactory when femoroacetabular de-coaptation reached 1 cm under fluoroscopic control.

Assessment

All medical files were reviewed and the patients were called to consultation. The principal assessment criterion was onset of pudendal neuralgia on the Nantes diagnostic criteria [7], comprising 24 clinical criteria compiled by an expert group of the French-language Interdisciplinary Urodynamic and Pelvic-Perineology Society (*Société interdisciplinaire francophone d'urodynamique et de pelvi-périnéologie*) and the Perineal Electrophysiology Club (*Club d'électrophysiologie périnéale*) (Table 1).

Table 1 Nantes diagnostic criteria for Pudendal Neuralgia [8].

5 Essential criteria for the diagnosis of pudendal neuralgia by pudendal nerve entrapment	1. Pain in the territory of the pudendal nerve (from the anus to the penis or clitoris) 2. Pain is predominantly experienced while sitting (relief of pain when sitting on a toilet) 3. The pain does not wake the patient at night 4. Pain with no objective sensory impairment 5. Pain relieved by diagnostic pudendal nerve block
8 Complementary criteria	1. Burns, shooting, numbness, stabbing pain 2. Allodynia or hyperpathia 3. Vaginal or rectal foreign body sensation ''sympathalgia'' 4. Worsening of pain during the day 5. Predominantly unilateral pain on palpation of the ischial spine 6. Pain triggered by defecation 7. Presence of exquisite tenderness (unilateral is suggestive) 8. Clinical neurophysiology findings in men or in nulliparous women
4 Exclusion criteria	1. Exclusively coccygeal, gluteal, pubic or hypogastric pain 2. Pruritus 3. Exclusively paroxysmal pain 4. Imaging abnormalities able to account for the pain
Associated signs not excluding diagnosis	1. Buttock pain and referred sciatic pain on sitting 2. Suprapubic pain 3. Urinary frequency and/or pain on a full bladder 4. Pain occurring after ejaculation 5. Dyspareunia and/or pain after sexual intercourse 6. Erectile dysfunction 7. Normal clinical neurophysiology