

CASE REPORT

Late sciatic nerve axonotmesis following acetabular reconstruction plate[☆]



J. Moreta*, X. Foruria, F. Labayru

Servicio de Cirugía Ortopédica y Traumatología, Hospital Galdakao-Usansolo, Galdácano, Vizcaya, Spain

Received 17 October 2014; accepted 28 January 2015

KEYWORDS

Sciatic nerve injury;
Acetabular fracture;
Complication

Abstract Sciatic nerve injuries associated with acetabular fractures can be post-traumatic, perioperative or postoperative. Late postoperative injury is very uncommon and can be due to heterotopic ossifications, muscular scarring, or implant migration. A case is presented of a patient with a previous transverse acetabular fracture treated with a reconstruction plate for the posterior column. After 17 years, she presented with progressive pain and motor deficit in the sciatic territory. Radiological and neurophysiological assessments were performed and the patient underwent surgical decompression of the sciatic nerve. A transection of the nerve was observed that was due to extended compression of one of the screws. At 4 years postoperatively, her pain had substantially diminished and the paresthesias in her leg had resolved. However, her motor symptoms did not improve. This case report could be relevant due to this uncommon delayed sciatic nerve injury due to prolonged hardware impingement.

© 2014 SECOT. Published by Elsevier España, S.L.U. All rights reserved.

PALABRAS CLAVE

Lesión del nervio
ciático;
Fractura del
acetábulo;
Complicación

Presentación tardía de lesión del nervio ciático secundaria a compresión por placa de osteosíntesis acetabular

Resumen Las lesiones del nervio ciático asociadas a fracturas acetabulares pueden ser postraumáticas, perioperatorias o postoperatorias. Las lesiones postoperatorias tardías son extremadamente raras y pueden deberse a osificaciones heterotópicas, cicatrización hipertrófica o migración del material de osteosíntesis. Presentamos el caso de una paciente de 39 años con antecedente de una fractura transversa de acetábulo izquierdo intervenida mediante placa de reconstrucción en la columna posterior. Tras 17 años asintomática, comenzó con dolor progresivo y paresia de varios meses de evolución en territorio ciático. Tras el pertinente estudio

[☆] Please cite this article as: Moreta J, Foruria X, Labayru F. Presentación tardía de lesión del nervio ciático secundaria a compresión por placa de osteosíntesis acetabular. Rev Esp Cir Ortop Traumatol. 2016;60:251–255.

* Corresponding author.

E-mail address: chusmoreta2@hotmail.com (J. Moreta).

neurofisiológico y radiológico, se decidió intervenir quirúrgicamente a la paciente, constatándose una transección del nervio ciático por compresión prolongada de uno de los tornillos de la placa de osteosíntesis. A los 4 años tras la descompresión quirúrgica, la paciente presentaba mejoría significativa del dolor neurógeno, sin parestesias. No obstante, no ha experimentado recuperación motora. Este caso clínico suscita interés dada la excepcionalidad de esta presentación tardía de lesión nerviosa, producida por la compresión prolongada del material de osteosíntesis.

© 2014 SECOT. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

Lesions of the sciatic nerve associated with acetabular fractures may occur during the causal trauma, iatrogenically during surgery or as a late complication. Figures of up to 30%¹ have been given for the incidence of post-traumatic injury to this nerve in cases of hip luxation and fracture-luxation, and it occurs the most frequently in fractures of the wall or rear column. Excessive retraction and the positioning of separators or screws close to the greater or lesser sciatic foramen.² Postoperative lesions are rare and may be due to several factors. Soon after surgery a haematoma may cause compression neuropathy.³ Later, muscle or capsular scarring, the migration of osteosynthesis material and heterotopic ossification have been said to be causes of this.^{1,4,5}

We present a clinical case of a patient with a post-operative lesion of the sciatic nerve caused by prolonged compression by the reconstruction plate which caused intra-neural dissection 17 years after the osteosynthesis of an acetabular fracture.

Clinical case

A 39-year-old patient with a history of upper transverse fracture of the left acetabulum in a traffic accident in 1991. Surgical treatment involved osteosynthesis of the rear column with a reconstruction plate. No neurovascular alterations arose and the postoperative period passed without incident. In the year 2008, 17 years after the initial injury, the patient visited due to gradually increasing gluteal pain irradiating to the rear face of the right leg, with paresthesias of the said area that had evolved over several months. There was no groin pain and the range of hip movement was painless and functional, with 110° of flexion, complete extension, 15° of internal rotation and 30° of external rotation. The gluteal pain increased with prolonged sitting and flexion, adduction and internal rotation of the hip (FAIR test).⁶ There was motor function deficit with paresis of the toe and peroneal muscle extensors (M4/5), as well as those of the calf muscles (M3/5) in the same leg. Examination of the spinal column was anodyne, while Lasegue's sign was positive with painful palpation in the gluteal region. Simple X-ray showed the osteosynthesis plate with no signs of loosening in comparison with previous examinations, and there were signs of degeneration in the coxofemoral joint

(Fig. 1a). The initial diagnosis of suspicion was of a piriformis syndrome, possibly due to post-surgical fibrosis. The electrophysical study revealed proximal involvement of the left sciatic nerve that was greater in the case of the fibres pertaining to the internal popliteal nerve. This gave rise to a moderate loss of motor units in the gastrocnemius muscle, with signs of active denervation. During subsequent months the pain gradually worsened in the rear of the leg, so the electrophysiological examination was repeated. A moderate chronic neurogenic pattern was observed in the muscles controlled by the external and internal popliteal sciatic nerves, of which the latter were the most affected. Greater Wallerian degeneration of the sensorial component was detected, and these findings were interpreted as progression or a return to an acute state of the nerve lesion in a known chronic condition. Magnetic nuclear resonance was used to try to identify the cause of the nerve compression, and this revealed piriformis muscle atrophy and fat infiltration, although the sciatic nerve could not be suitably evaluated due to the proximity of the osteosynthetic artefact material. Computerised axial tomography (CAT) detected the protrusion of the head of one of the osteosynthesis screws into the path of the sciatic nerve close to the piriformis muscle (Fig. 1b).

The patient experienced gradual worsening of the pain and paresthesias in the leg which were not suitably controlled by analgesics and physiotherapy. It was therefore decided to operate surgically to extract the osteosynthesis material and decompress the sciatic nerve.

The Kocher-Langenbeck hip approach was used, with the patient in lateral decubitus, and magnifying spectacles were used. To relieve the pressure on the sciatic nerve a suitable position with hip extension and knee flexion was adopted. After making the incision over the fasciae latae, the femoral insertion of the greater gluteal tendon was partially freed to obtain suitable retraction of the rear flap. The sciatic nerve was identified from a more distal zone of the approach, following the fibres of the femoral quadratus muscle up to the more rearward zone. The dissection was then continued longitudinally and more proximally, cutting the piriformis tendon and the short external rotators. A diffuse thickening appeared in the route of the nerve over the plate (Fig. 2a). At this point it was found that the head of one of the screws had caused transection of the nerve due to a probable mechanism of prolonged compression (Fig. 2b). When the nerve was freed it was possible to identify a longitudinal

Download English Version:

<https://daneshyari.com/en/article/4087058>

Download Persian Version:

<https://daneshyari.com/article/4087058>

[Daneshyari.com](https://daneshyari.com)