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Sciatic neuropathy secondary to compartment syndrome in a patient that suffered a building collapse

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Abstract

Sciatic neuropathy is an uncommonly diagnosed focal mononeuropathy. Causes may include trauma, diabetic mononeuropathy, intragluteal injections, gluteal spontaneous haemorrhage or piriformis syndrome. We present a 21 year old man how suffered a crush lesion due to a building collapse while he was working. Gluteal compartment syndrome should be rule out in patients who developed sciatic neuropathy after a trauma and electrophysiological studies can help us in the localization and prognosis of the lesion.

Key words: Sciatic neuropathy, compartment syndrome, electrophysiological studies, prognosis.

Introduction

Sciatic neuropathy is an uncommonly diagnosed focal mononeuropathy. Causes may include trauma, diabetic mononeuropathy, intragluteal injections, gluteal spontaneous haemorrhage or piriformis syndrome (1, 2). Sciatic neuropathy due to gluteal compartment syndrome is a condition which has rarely been described. We describe here a case of sciatic neuropathy due to a compartment syndrome in a patient that suffered a building collapse.

Case reports

The patient was a 21 year old man how suffered a crush lesion due to a building collapse while he was working. The patient waited for 20 minutes until the rescue, and he was translated by helicopter to the Hospital Universitario "12 de Octubre. The patient complained of focal left buttock pain and right lower-leg weakness and numbness. Normal peripheral pulses remained present. The examination showed a sciatic innervated muscle weakness (hamstrings 4-/5, gastrocnemius 3/5, tibialis posterior 3/5, tibialis anterior 0/5, extensor hallucis longus 0/5, Abductor hallucis longus 0/5),ankle jerk arreflexia and peroneal nerve sensory deficit. A diagnosis of gluteal compartment syndrome was made, and the patient was taken to the operating room for a left buttock exploration and fasciotomy. Electrodiagnostic studies were performed three months later that included electromiography and motor nerve conduction studies. These were found to be a polyphasic and reduced amplitude in the peroneal nerve of 1.3 mV. Electromyography of the right lower limb using a 50-mm monopolar needle electrode revealed normal spontaneous activity, motor unit amplitude, and motor unit recruitment in the vastus medialis and abductor longus. The tibialis anterior, short head of the biceps femoris, extensor hallucis longus, extensor digitorum brevis, posterior tibialis, and medial gastrocnemius revealed spontaneous activity and polyphasic motor units of increased amplitude and duration. Now a day, he continues the clinical improving.

Discussion

Compression of sciatic nerve may occur in the pelvis, gluteal region and in the thigh. In the pelvis, sciatic nerve may be involved by tumours, trauma, endometriosis and vascular lesions. The gluteal region is a common site of entrapment, sometimes related to nerve compression because is relatively expose (3). The combination of clinical history, physical examination, imaging studies, and electrophysiologic studies can help to con firm the aetiology for sciatic mononeuropathy (4). Gluteal compartment syndrome is a rare, often unrecognized, condition most commonly caused by trauma or immobilization. This entity is usually described in the orthopaedic or emergency medicine literature after blunt trauma or crush injuries to the pelvis. Some time is due to abdominal aortic aneurysm with short infrarenal neck and aneurismal, unequal bilateral common iliac arteries after prolonged immobility secondary to an altered mental status (5-8). Gluteal compartment syndrome should be rule out in patients who developed sciatic neuropathy after a trauma, electrophysiological studies can help us in the localization and prognosis of the lesion.

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