

CASE REPORT

MERALGIA PARESTHETICA SYNDROME AS A COMPLICATION OF TRANSFEMORAL CORONARY ANGIOGRAPHY

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Meralgia paresthetica syndrome is a rare neuropathic disease that usually occurs spontaneously and is occasionally caused by compression of the lateral femoral cutaneous nerve. The most important clinical features include sensory loss, numbness and dysesthesia in the area of innervation of the anterolateral femoral cutaneous nerve, as well as pain sensation during walking. These signs and symptoms disappear within 6 months and seldom require surgery. During the past 2 years, 1,550 patients undergoing transfemoral coronary angiography in affiliated cardiology centers of Isfahan University of Medical Sciences were prospectively identified and examined for meralgia paresthetica following the procedure. Of 26 suspected cases, five cases of unilateral meralgia paresthetica were confirmed using electromyography and nerve conduction velocity study. Transfemoral coronary angiography is an increasingly used modality that may cause meralgia paresthetica syndrome.

Keywords • lateral femoral cutaneous nerve • meralgia paresthetica • transfemoral coronary angiography

Introduction

Meralgia paresthetica (MP, meros meaning thigh) was one of the first entrapment neuropathies of the lateral femoral cutaneous (LFC) nerve to be identified, and has been recognized for 100 years.¹

The LFC nerve is a sensory nerve that originates from the second and third lumbar roots and supplies the anterolateral aspect of the thigh from the level of the inguinal ligament to the region of the knee. The nerve penetrates the psoas muscle, crosses the iliac muscle, and penetrates the thigh by crossing the space between the attachments of the lateral part of the inguinal ligament and the anterior superior iliac spine.

MP is commonly characterized by compression of the LFC nerve, resulting in uncomfortable paresthesia and sensory impairment in the area of cutaneous branch innervation. Numbness and mild skin sensitivity usually are the

only symptoms, but occasionally there is a persistent, distressing, burning pain. Perception of touch and pinprick are reduced in the territory of the nerve. The examiner cannot find any weakness of the quadriceps or diminution of the knee jerk. Characteristically, the symptoms worsen in certain positions and after prolonged standing or walking. In obese persons, sitting is occasionally the most uncomfortable position. Obesity, pregnancy and diabetes mellitus are contributory factors. Most often the neuropathy is unilateral, with 20% of cases being bilateral.^{1,2}

The possibility that MP syndrome can be a complication of transfemoral coronary angiography (CA) was the focus of the present study. During or after this procedure, compression of the inguinal area to prevent hemorrhage causes compression of the LFC nerve.³ Other causes of MP include surgical procedure for repair of inguinal herniation,⁴ weight gain and loss,⁵ lepromatous disease,⁶ diabetes mellitus in some pregnant women, and lung cancer.⁷ Because most patients understand the benign nature of the

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syndrome, they do not demand any therapy.⁷ We identified five cases of meralgia paresthetica that occurred as a complication of transfemoral CA.

Case Series

In the present study, 1,550 patients who underwent transfemoral CA were studied. Age ranged from 48 to 68 years. All patients were prospectively examined 1 week after transfemoral CA for MP syndrome as a complication of the procedure. Diagnosis of MP was based on the results of neurologic examination, electromyography (EMG) and nerve conduction velocity (NCV) in all patients. Unilateral MP was confirmed in five (4 men, 1 woman) cases. Most of the patients did not require medical therapy; physician reassurance was sufficient and there was no need for any specific follow-ups.

Discussion

Transfemoral CA is a routine procedure used daily in cardiology departments as a tool for the diagnosis and evaluation of coronary artery disease.

The LFC nerve passes near the femoral artery (1.5 cm distance apart), where the catheter is inserted during the transfemoral CA procedure. This nerve has a pure sensory function, supplying the anterolateral aspect of the thigh. The LFC nerve is very fragile and vulnerable to damage.⁸ During transfemoral CA, manipulation of this area, or the use of compressive bags to prevent hemorrhage following the procedure, can damage the LFC nerve.

The pathologic findings of LFC nerve lesions caused by compression include pure demyelination, or axon and myelin degeneration (Wallerian degeneration). Any of these findings were seen on pathologic studies in five of 12 autopsied cases.⁹ MP syndrome is one of the rare complications of transfemoral CA that has a good outcome without any lifetime sequelae.

MP was an uncommon complication of transfemoral CA in this study. All five of our MP patients improved without any medication 6 months after the CA procedure. In a study of 277 cases that were followed for a long period, 91% completely recovered with only conservative therapy; the remainder needed surgical intervention including decompression and/or sectioning of the LFC nerve.¹⁰ Conservative therapy consists of oral NSAIDs, local lidocaine injection, or a combination of lidocaine and steroid injection.¹⁰ Several studies have shown that children with MP recover well without surgical intervention.¹¹

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