Ipsilateral Foot Drop after Aortobifemoral Bypass

Monish S Raut, Vijay Mohan Hanjoora, Akhil Govil1, Paritosh Gupta2
Departments of Cardiac Anaesthesiology and 1Cardiac Surgery, Artemis Hospitals, 2Department of General Surgery, Artemis Hospitals, Gurgaon, Haryana, India

Introduction

Peripheral nerves can be injured by a direct result of the anesthetic technique of regional anesthesia or it can be contributed/compounded by poor perioperative positioning and padding, tourniquets, and the nature of surgery and diseases affecting the microvasculature of nerves. We present a case of perioperative peripheral nerve injuries which could not be explained by anesthesia technique nor surgery per se.

Keywords: Aortobifemoral bypass, foot drop, sciatic nerve

Case Report

A 58-year-old male patient presented with pain in bilateral lower limbs. He was diagnosed with severe atherosclerotic stenotic disease of bilateral iliac arteries and abdominal aorta. The patient was scheduled for thoracic aortobifemoral bypass surgery. After smooth anesthesia induction, left-sided double-lumen tube was placed. Left lateral thoracotomy was performed, and conduit graft was anastomosed with descending thoracic aorta after adequate heparinization. Laparoscopic retroperitoneal dissection was carried out to create a tunnel for the conduit placement. The distal ends of conduit were anastomosed with bilateral femoral arteries after doing inguinal dissections. After the procedure, distal arterial flow in both limbs was satisfactory. On postoperative day 2, the patient was unable to dorsiflex his right foot. The patient also complained about pain in gluteal region radiating down the right lower limb. Examination revealed newly appeared hard and tender swelling in right gluteal region. X-ray of the pelvis revealed soft-tissue swelling in the right gluteal area. Aspiration of the swelling showed collected blood and clots. The patient was managed conservatively. Left lateral position and limb physiotherapy was started. After a week, gluteal swelling subsided, and the patient gradually recovered his right foot dorsiflexion. Subsequently, the patient could walk without any difficulty.

Discussion

It is quite an unusual symptom of new-onset sciatica pain with foot drop after aortobifemoral bypass. The sciatic nerve is formed from the anterior and
posterior divisions of the L4, L5, S1, and S2 spinal nerves along with the anterior division of the S3 spinal nerve. The anterior and posterior divisions form the tibial and peroneal divisions of the sciatic nerve, respectively. Course of the two divisions is beneath the piriformis muscle, with the peroneal division lying lateral to the tibial division.\textsuperscript{4} Sciatica is most commonly caused by spinal disc herniation followed by extraspinal infrequent causes.\textsuperscript{5} Extraspinal entrapment neuropathy is the compression of sciatic nerve by piriformis muscle (piriformis syndrome) and other gluteal muscles.\textsuperscript{6,7} This case is particularly compelling that there was no prior history suggestive of such symptoms nor any surgical procedure/trauma in the gluteal region. Superficial peroneal nerve injury is a common cause of foot drop, particularly after knee arthroplasty surgery. This nerve can get compressed at the fibular head during lithotomy and lateral position, unlikely in the supine position as in the present case.

The clinical examination serves to identify the location of nerve impairment. In case of severe deficit, electrophysiological and imaging studies are preferable. We believe that blood oozing due to retroperitoneal dissection might have followed the path of least resistance to the dependent part of the right gluteal area. This collected blood in the right gluteal region might be causing local compression of sciatic nerve causing foot drop. For perioperative physicians, it is essential to be aware of such an unusual cause of foot drop.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

References
1. Lalkhen AG, Bhatia K. Perioperative peripheral nerve injuries. Contin Educ Anaesth Crit Care Pain 2012;12:38-42.
2. Kroll DA, Caplan RA, Posner K, Ward RJ, Cheney FW. Nerve injury associated with anesthesia. Anesthesiology 1990;73:202-7.
3. Welch MB, Brummett CM, Welch TD, Tremper KK, Shanks AM, Guglani P, et al. Perioperative peripheral nerve injuries: A retrospective study of 380,680 cases during a 10-year period at a single institution. Anesthesiology 2009;111:490-7.
4. McCabe FJ, McCabe JP. An unusual presentation of right‑sided sciatica with foot drop. Case Rep Orthop 2016;2016:9024368.
5. Valat JP, Genevay S, Marty M, Rozenberg S, Koes B. Sciatica. Best Pract Res Clin Rheumatol 2010;24:241‑52.
6. Kirschner JS, Foye PM, Cole JL. Piriformis syndrome, diagnosis and treatment. Muscle Nerve 2009;40:10-8.
7. Meknas K, Christensen A, Johansen O. The internal obturator muscle may cause sciatic pain. Pain 2003;104:375-80.