

Section: SURGICAL CASE REPORT

Abstract: SCR-02

Popliteal artery entrapment syndrome in an adolescent: A case report

Mateus De Oliveira Figueiroa Cavalcanti, Isabela Barroso Villela, Gustavo Lolli, Alejandro Cuan Tichauer, Enzo Peterutto Abud, Fábio Leite Bueno e Silva Filho, Marcelo Andraus Filardi Andorfato, Rafael Ferrel Baquette, João Antonio Correa, Luciene do Nascimento Lima, Rafael Vilhena de Carvalho Fürst

Centro Universitário FMABC, Santo André, Brazil

mateusdofc@gmail.com

INTRODUCTION: Popliteal artery entrapment syndrome (PAES) is a rare vascular condition characterized by extrinsic compression of the popliteal artery by anomalous musculotendinous structures, predominantly affecting young and physically active individuals. In adolescents, diagnosis may be challenging due to its low prevalence and nonspecific presentation, often confused with musculoskeletal disorders, which may result in delayed diagnosis and progression to arterial lesions. This report aims to describe a case of PAES in an adolescent. **CASE REPORT:** K.B.S., a 14-year-old male, previously healthy, presented with right lower limb pain for three months, associated with exertional limitation. Physical examination revealed absence of popliteal, posterior tibial, and anterior tibial pulses in the affected limb. Doppler ultrasonography demonstrated occlusion of the popliteal artery with extrinsic compression and distal flow impairment. Contrast-enhanced computed tomography showed medial deviation of the artery due to an accessory fascicle of the medial head of the gastrocnemius muscle, consistent with type III PAES. Given the arterial compromise, surgical treatment was performed, including division of the anomalous fascicle, resection of the affected arterial segment, proximal and distal thromboembolectomy, and revascularization using an autologous small saphenous vein graft. The postoperative course was favorable, with restoration of distal arterial flow. At 30-day follow-up, Doppler ultrasonography demonstrated a patent artery without hemodynamic impairment. **DISCUSSION:** This case highlights the need to include PAES in the differential diagnosis of claudication and lower limb pain in adolescents, especially in the absence of risk factors for peripheral arterial disease. Clinical and imaging correlation is essential for accurate diagnosis and therapeutic planning. Early surgical treatment, with arterial decompression associated with vascular reconstruction when indicated, provides good clinical and functional outcomes, preventing complications.

KEYWORDS: Popliteal artery entrapment syndrome; Adolescent; Intermittent claudication; Anatomic abnormalities.