CASE REPORT

Acute Traumatic Arteriovenous Fistula Following Blunt Trauma of the Wrist

S. Verbeke*, I. Desrumaux, P. Gellens, L. Cardoen and Ph. Lefere

Department of General and Vascular Surgery and Department of Diagnostic and Interventional Radiology, Stedelijk Ziekenhuis Roeselare, Belgium

Introduction

Only few reports have been published about symptomatic arteriovenous fistulae (AVFs) of the distal arm following blunt trauma. Most AVFs are the result of penetrating trauma, fracture or dislocation.¹ ² We emphasise the importance of a good clinical examination and evaluation of the peripheral arterial pulses after a blunt trauma.

Case Report

An 18-year-old boy presented after blunt trauma to the wrist. He received a volley-ball on the palmar side of the left wrist. He complained of localised pain and paraesthesia in his fingertips. On examination, the wrist was swollen and a thrill was detected over the radial artery region.

Radiographic examination of the wrist was normal. Duplex-ultrasound examination and arteriography confirmed the clinical suspicion of a traumatic AVF between the radial artery and vein with complete steal of blood from the deep palmar arch (Fig. 1).

Fig. 1. Lateral view of an arteriography showing an arteriovenous fistula between the radial artery and vein.

Fig. 2. Digital subtracting angiogram demonstrating a complete steal phenomenon of the deep palmar arch. Only the late arterial phase shows opacification of the superficial palmar arch.

* Please address all correspondence to: S. Verbeke, Gemeenteplein 20 Bus 11, 8790 Waregem, Belgium.
Only the late arterial phase shows opacification of the superficial palmar arch (Fig. 2). As the patient was symptomatic, the AVF was surgically explored and ligated. More at the superficial palmar arch (Fig. 2). As the patient was symptomatic, the AVF was surgically explored and ligated.3

Discussion

Nearly one in ten acute arterial injuries is an AVF.4 Most AVFs are the result of a penetrating injury.1-3,5 Head, neck, thoracic outlet, abdomen and upper arm and leg are the most frequent locations.1,4 AVFs of the distal extremities following blunt trauma are very rare. If not recognised and treated adequately AVFs can become chronic, leading to the development of local aneurysms and distal limb ischaemia.3 The earlier the treatment is instituted, the better the results.1 Selected patients with small, distal AVFs of the arm and lower extremity may be candidates for conservative therapy.4 The definite diagnosis is made by arteriography since physical examination with a pathognomonic bruit is helpful only in about half of the patients.4 More attention should be paid to the diagnosis and management of peripheral arterial injuries after blunt trauma.

References


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