

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz - Case 1

A 64 year old woman presented to our emergency department with acute right upper extremity ischemia. Her medical history was significant for hypertension, migraines and she was a known smoker. The patient was admitted with normal sinus rhythm and she had not any known heart disease with documented embolic potential. She refused being on any anti-platelets, while she had been on ergotamine derivatives (Cafergot®) for the last seven years due to migraines. Physical examination revealed a painful, pale, cold, forearm and hand. The right brachial and distal pulses were absent and Doppler signals were not detected. Pulses at the contralateral upper extremity were normal. Chest x-ray, ECG and Lab evaluation were not notable.

Two days before admission, she suffered an injury at her right biceps brachii muscle during a physiotherapy session for back pain problems, which caused a rounded palpable hematoma mass, 7 cm in diameter at the inner surface of the right arm. A diagnostic selective right brachial artery (RBA) arteriogram demonstrated a cut-off of contrast without any significant collateral vessels (Figure 1).

Comment

Although ergotism was at first suspected, there was also high index of suspicion about the injury hematoma as a cause of the ischemia. The findings of the arteriogram were not typical for ergotism and thus right brachial artery external compression was speculated. The patient was managed surgically under local anesthesia; hematoma exposure and evacuation was performed at the inner surface of the right arm (Figure 2). The brachial artery was decompressed and pulses were restored at the brachial, radial and ulnar arteries. Post-operative Power Doppler ultrasound and Color Duplex of the right brachial artery were not significant for any remaining stenotic lesions (Figure 3). The patient was discharged on Clopidogrel (75 mg/day) with intact pulses in both ulnar and radial arteries. At 6 month follow-up the patient remained asymptomatic.

In 70% of cases, acute upper extremity ischemia is caused by arterial embolism of cardiac origin. More rare causes include Takayasu's arteritis, thoracic outlet syndrome, radiation injury, hypothernar hammer syndrome, trauma and acute compartment syndrome. In our case, the underlying cause was firstly assumed to be ergotism because the patient admitted being on ergotamine derivatives (Cafergot®) for several years; ergotamine is a potent vasoconstrictor that can adversely affect the peripheral vasculature. Nevertheless the performed arteriogram was not typical for ergotism (prolonged filling of vessels, segmental vasospasms, or corkscrew-like collateral vessels). Acute compartment syndrome after closed muscle rupture could be also a possible cause of acute ischemia in this patient. However, neither swelling (diffuse edema), nor tenderness on palpation of the affected compartment were found. Instead, physical examination revealed a well-rounded palpable hematoma mass at the inner surface of the right arm that resulted in acute brachial artery compression and occlusion. In the list of rare causes of acute upper extremity ischemia, traumatic hematoma compression of an artery secondary to closed muscle rupture should be included. Prompt surgical evacuation of the hematoma represents the optimal treatment.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2007, 24(4):404

C. Klonaris,
A. Katsargyris

1st Department of Surgery, Vascular
Division, Athens University Medical
School, Laiko Hospital, Athens, Greece



Figure 1. Selective right brachial artery angio showing occluded right brachial artery.

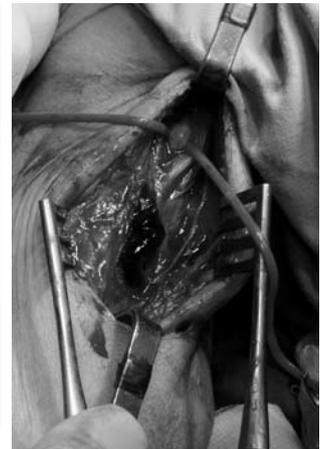


Figure 2. Biceps brachii muscle hematoma evacuation.

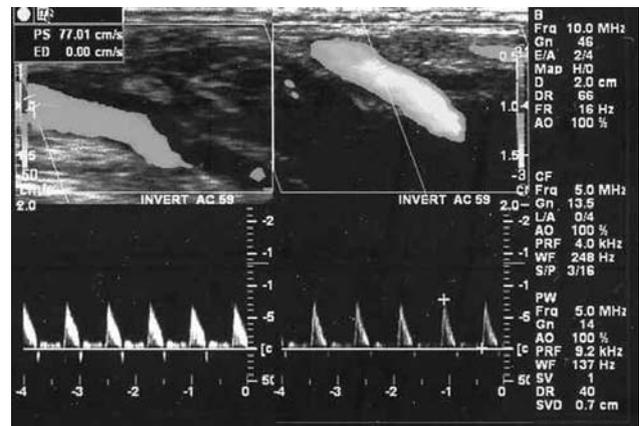


Figure 3. Follow-up duplex scan showing patency of the brachial artery.

Corresponding author:

C. Klonaris, 1st Department of Surgery, Vascular Division, Athens University Medical School, LAIKO Hospital, Athens, Greece
e-mail: chris_klonaris@yahoo.com

Diagnosis: Acute upper extremity ischemia due to external compression of brachial artery by injury hematoma after physiotherapy.