Successful Endovascular Treatment of Acute Thromboembolic Upper Limb Ischemia in a Patient with Atrial Fibrillation

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Background:
Acute limb ischemia represents a medical emergency that requires prompt diagnosis and treatment in order to preserve the viability of the affected tissue. The majority of the ischemic events are thrombotic, especially in patients with atrial fibrillation. To date, surgical thrombectomy is usually used for the treatment of thromboembolic upper limb ischemia.

Clinical presentation:
We present a case of an 88-year-old patient who presented with right upper limb pain, pulselessness and paraesthesia. Duplex-sonography revealed thrombotic occlusion and absence of flow both in the ulnar and radial artery. ECG exhibited atrial fibrillation (88bpm).

Endovascular Procedure & Follow-up:
Antegrade puncture of the brachial artery was performed and digital subtraction angiography (DSA) confirmed fresh occlusion of the ulnar and radial artery with some residual flow in the accessory brachial artery (a). Thrombus aspiration using a 6F Eliminate™ aspiration catheter (Terumo Interventional Systems, Eschborn, Germany) was repeatedly performed (b), resulting in TIMI III antegrade flow to the right hand (c), promptly filling of the palmar arch and with retrograde filling of the ulnar artery (d). Pain and paraesthesia immediately resolved without need for further pharmacologic interventions.

Follow-up duplex sonography: The patient was discharged without functional deficits of his right hand and duplex-sonography after 4 weeks revealed triphasic flow of the brachial (E) and of the radial artery (F) and retrograde biphasic flow of the ulnar artery (G).

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