



# Pseudoaneurysm of the Left Humeral Artery after an Arterial Puncture

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## Clinical Image

Pseudoaneurysms of the humeral artery are rare and are usually due to traumatic or iatrogenic lesions [1]. We present the case of an anti coagulated patient who developed a humeral pseudoaneurysm secondary to an arterial puncture for gas control. A 73-year-old patient with moderate left ventricular systolic dysfunction who had a mechanical mitral prosthesis for 10 years due to rheumatic mitral valve disease and permanent atrial fibrillation and was treated with acenocoumarol, beta-blockers, diuretics and angiotensin-converting enzyme inhibitors. He was admitted for dizziness symptoms with a syncopal episode and functional class deterioration with greater dyspnea and edema in the lower limbs. The exploration revealed a basal oxygen saturation of 86% by pulse oximetry and wet crackles to midfields. The electrocardiogram showed atrial fibrillation at 30 Beats per Minute (bpm) with pauses longer than 6 seconds, alternating with atrial fibrillation with a ventricular response at 150 bpm. The chest x-ray showed signs of pulmonary congestion. An arterial blood gas analysis was obtained after puncture of the left humeral artery. A definitive single-chamber pacemaker with electrode was implanted in the apex of the right ventricle. With the intravenous diuretic treatment and oxygen supply in nasal goggles, it improved the signs and symptoms of congestion. He was discharged with acenocoumarol and unfractionated subcutaneous heparin due to inadequate control of the INR along with his usual treatment. After 7 days, he returned to the emergency department due to the growth of a tumor in the left arm associated with intense pain and paresthesia in the fingers of the hand. On physical examination, the lunar or left radial pulse was not palpable. Arterial Doppler ultrasound revealed a 4 cm humeral pseudoaneurysm with permeability of the proximal humeral artery and distal compression of the pseudoaneurysm (Figure 1). Surgical repair of the pseudoaneurysm was performed with direct suture of the orifice of the humeral artery with evacuation of the hematoma. The postoperative period was uneventful. Arterial Pseudoaneurysms of the upper limbs are much less frequent than those of the lower limbs [2]. They are usually due to traumatic injuries such as humeral fractures or iatrogenic secondary to arterial wall wounds after a cardiac catheterization or more rarely after an arterial blood gas analysis as the patient we describe [3-6]. The usual presentation is a painful and throbbing mass associated with a systolic murmur [7]. It is important to take into account this pathology for early diagnosis and avoid serious complications such as rupture, infection, distal embolization, neurological and vascular deficits [1,6]. Imaging techniques such as arterial Doppler

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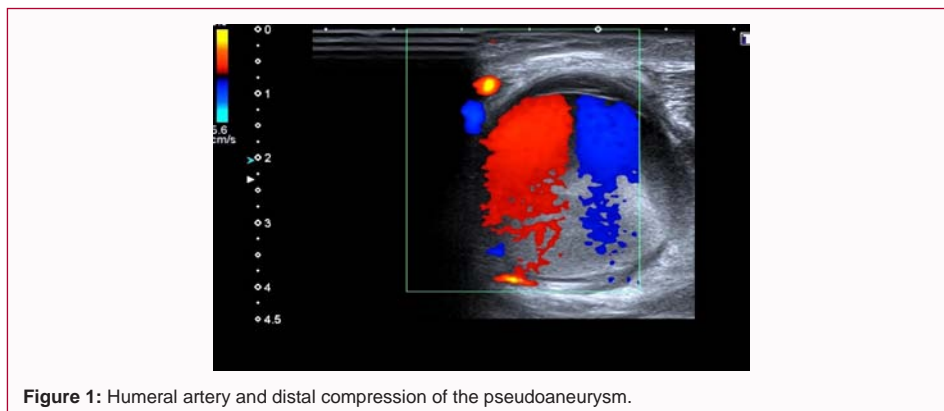


Figure 1: Humeral artery and distal compression of the pseudoaneurysm.

ultrasound and Computerized Angiography (CT) are fundamental for diagnosis [8]. Regarding handling, it depends on the size and location. Small Pseudoaneurysms can be managed conservatively with manual compression and sealed with thrombin, but large Pseudoaneurysms such as our patient, usually require surgical repair with direct suture or patch [9,10]. In conclusion, Pseudoaneurysms of the humeral artery secondary to an arterial puncture for gas control are very rare and clinical suspicion is essential for early diagnosis.

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