

Traumatic Pseudoaneurysm of the Superficial Temporal Artery: A Case Report

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Abstract

Pseudoaneurysm arising from the superficial temporal artery (STA) is a rare and potentially critical cause of palpable mass. Most pseudoaneurysms form as a result of blunt trauma and present as painless, pulsatile mass that may be associated with pathologic finding and enlarged size.

Keywords: Trauma; Superficial Temporal Artery; False Aneurysm

Introduction

The false aneurysm of the superficial temporal artery (STA) is a very rare location, often secondary to direct trauma to a branch of the temporal artery. This diagnosis is essentially clinical, and treatment is usually surgical, first case reported by Bartholin in 1644 [1].

Case Observation

A 17-year-old male patient consulted for an asymptomatic swelling developed in the right temporal region a few weeks ago (Figure 1). The medical history revealed a past cranio-facial trauma following a domestic accident. The palpation found a small pulsatile and sensitive mass on the path of the frontal branch of the superficial temporal artery, with regular contours without inflammatory signs and soft consistency. There was a decrease in the pulsatility of the mass after upstream arterial compression. Doppler ultrasound revealed a false aneurysm of the frontal branch of the STA. The post-traumatic origin was retained. The patient underwent surgery under local anesthesia, with ligation of the temporal artery upstream and down-stream of the false aneurysm (Figure 2). The post-operative period was uneventful (Figure 3).

The anatomopathological examination confirmed the suspected diagnosis with an enlarged arterial wall, thin media, disappearance of the elastic layers associated with parietal thrombus and fibrosis.

Figure 1: Skin swelling in the right temporal area.

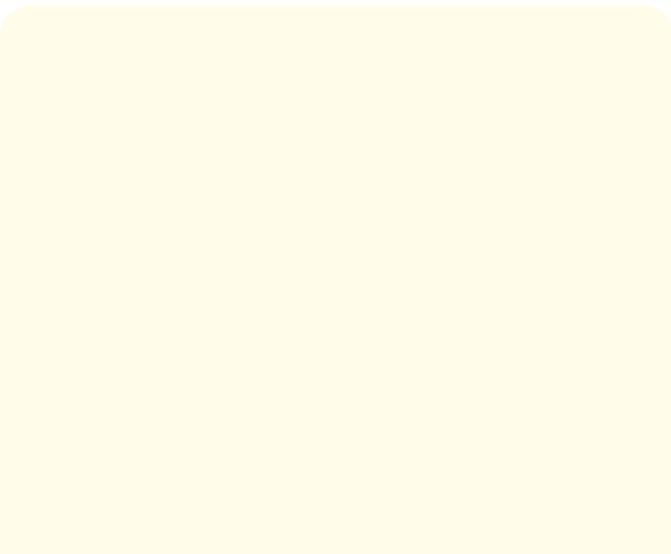


Figure 2: Operative view of the false aneurysm of the superficial temporal artery.

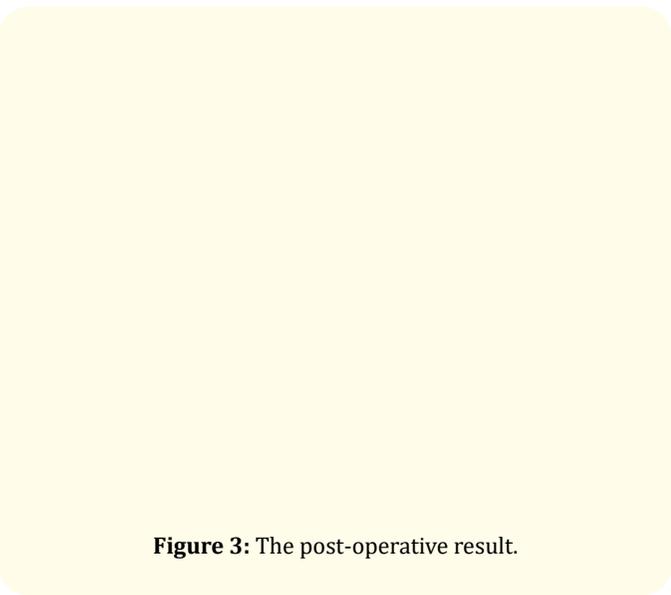


Figure 3: The post-operative result.

ly affecting young men between 20 and 40 years old [4,5]. Pediatric cases have also been reported [6]. The main etiology remains cranio-facial trauma [1,7]. Iatrogenic cases have also been reported following maxillofacial surgery or secondary to dermatological procedure [4,8]. There are also cases of non-traumatic AT aneurysms discovered by chance, which are also exceptional and which can be associated with intracranial aneurysms [9]. The diagnosis is essentially clinical, in the presence of any pulsatile mass in front of the STA or one of its branches. This pulsatile mass can be painful and generally appears a few weeks after a cranio-facial trauma. The pulsatile nature is not always present especially in case of thrombosis. A trauma in the past medical history should be looked for systematically. Loss of pulsatility after upstream compression of the artery is a pathognomonic sign. Differential diagnoses in the presence of a swelling in the temporal region associate vascular origin such as aneurysms of the middle meningeal artery, vascular tumors and arteriovenous malformations. Juvenile temporal arteritis is represents a rare and distinct entity which particularly affects young people, under 50 years old. The diagnosis is histological, in the presence of an adventitious inflammatory granuloma with arterial thrombosis and the treatment is also limited to surgical management [10]. Besides vascular lesions, the differential diagnosis can also be made with dermatological lesions: lipomas, sebaceous cysts, or epidermal cysts. Duplex ultrasound is the key complementary exam [11], revealing the false aneurysm of the STA. Magnetic resonance imaging or CT-scan may also be requested [12]. Treatment is usually surgical [13], under local anesthesia, associating ligation of the STA on both sides. No arterial repair is necessary, arterial ligation has no clinical consequences. Other therapeutic options can be proposed, in particular micro-coil placement [14] or thrombin intra-aneurysmal injection [15]. However, these therapies are less aesthetic, whereas this is often what is requested by patients. Finally, the systematic pathological analysis confirms the diagnosis and distinguishes the false aneurysm from a true aneurysm, which remains exceptional [16].

Discussion

The false superficial temporal artery aneurysm is a rare entity but many cases have been reported in the literature [2]. The superficial temporal artery is the terminal branch of the external carotid artery and is divided into two branches: a frontal branch and a parietal branch. The frontal branch is the most superficial and therefore often affected by traumatic aneurysmal lesions [3], most-

Conclusion

The ENT surgeons should consider the possibility of a traumatic pseudoaneurysm in case of pulsatile palpable mass chronologically related to trauma around preauricular region.

Disclosure of Interest

The authors declare that they have no competing interest.

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