



Pseudo-aneurysm of the external carotid artery post closed trauma of the parotid artery

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Abstract: Rare causes of vascular parotid swellings that may cause diagnostic error. Indeed, the additional examinations will have to be appropriate thus allowing an adapted therapeutic management. Pseudo-aneurysms of the external carotid artery or its branches are rare [1] and often secondary to trauma. We present the case of a 29-year-old patient who consulted for a left intra-parotid lesion in March 2020 following a shock on the left upward limb of the mandible occurring 4 days before. At the initial clinical examination, he found a palpable mass 2 cm in diameter, deep retro-mandibular, not pulsatile. Angioscan performed in emergency objectified after injection of contrast agent in favor of an aneurysm of the external carotid intra-parotid portion. Pseudo-aneurysms of the extra-cranial arteries are rare and most often post-traumatic, frequently affecting the internal carotid artery [2]. Only 7 cases are described in the literature [3]: 4 on the intra-parotid part of the external carotid artery, 2 on the superficial temporal artery and 1 on the posterior auricular artery [7]. The different treatments include observation with regular monitoring, surgical excision, presso therapy and embolization [3,5]. In this case, the treatment consisted of embolizing the external carotid artery. Therefore, it seems to us essential to think about this pathology in case of atypical lesion before any invasive gesture. Although rare, and even if there is no trauma, it seems important to us to evoke the pseudo-aneurysms of the external carotid artery or one of its branches.

Keywords: pseudo aneurysm; external carotid; embolization

Introduction

Rare causes of vascular parotid swellings that may cause diagnostic error. Indeed, the additional examinations will have to be appropriate thus allowing an adapted therapeutic management. Pseudo-aneurysms of the external carotid artery or its branches are rare [1] and often secondary to trauma. The character of this intra-parotid pseudo-aneurysm of the external carotid artery that we present here makes this clinical case a rarely described case in the literature.

Observation

We present the case of a 29-year-old patient who consulted for a left intra-parotid lesion in March 2020 following a shock on the left upward limb of the mandible occurring 4 days before. At the initial clinical examination, he found a palpable mass 2 cm in diameter, deep retro-mandibular, not pulsatile. Angioscan performed in emergency objectified carried out as part of the paraclinical assessment found a heterogeneous nodular formation of 20 mm in diameter of the deep lobe of the left parotid with regular contours without infiltration of the adjacent parenchyma. This lesion was enhanced after injection of contrast agent in favor of an aneurysm of the external carotid intra-parotid portion (Fig. 1). Although the radiologists did not exhibit the characteristic clinical signs, they performed arteriography with embolization.



Figure 1 : angio ct scan : Pseudo-aneurysm of the external carotid artery

Discussion

Pseudo-aneurysms of the extra-cranial arteries are rare and most often post-traumatic, frequently affecting the internal carotid artery [2]. Only 13 cases involving the external carotid artery or its branches are found in the literature [2, 3]. The most common pseudo-aneurysms are those of the superficial temporal artery, particularly in post-traumatic or iatrogenic cases [4–6]. It is extremely rare to diagnose a spontaneous pseudo-aneurysm.

Intra-parotid aneurysms may present as parotid masses. Only 7 cases are described in the literature [3]: 4 on the intra-parotid part of the external carotid artery, 2 on the superficial temporal artery and 1 on the posterior auricular artery [7]. All of these cases had an identified triggering factor. In this case, the clinical presentation mimicked parotid mass. The pulsatility found in aneurysms and false aneurysms was not present in our patient's initial clinical picture. This case emphasizes the importance of knowing the rare causes of intra-spinal lesions but especially the importance of additional examinations (ultrasound, CT, MRI) as well as their good understanding before performing any needle puncture or surgical biopsy. In fact, imageries such as high-resonance MRI scans or multi-array scanners with contrast injection make it possible to accurately characterize the anatomical details as well as the various angiographic sequences [8]. However, an ultrasound with a doppler allows to visualize the different flows within the vessel (luminal and aneurysm). Additional tests are underway to find an etiology to this pseudo-aneurysm. The management of extra-cranial pseudo-aneurysms depends on various factors: the effect of mass on adjacent structures, the evolution of the size of the lesion, the associated symptoms (close to the facial nerve) and the choice of the patient. The different treatments include observation with regular monitoring, surgical excision, presso therapy and embolization [3,5]. In this case, the treatment consisted of embolizing the external carotid artery. Therefore, it seems to us essential to think about this pathology in case of atypical lesion before any invasive gesture.

Conclusion

Although rare, and even if there is no trauma, it seems important to us to evoke the pseudo-aneurysms of the external carotid artery or one of its branches before an unconventional imaging of intra-tumor. This allows the Parotidian to complete the additional assessment and propose an adapted support.

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