

CASE REPORT

PSEUDO ANEURYSM OF THE RIGHT SUPERFICIAL TEMPORAL ARTERY: A CASE REPORT

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INTRODUCTION

Superficial temporal artery pseudoaneurysm is a rare pathology that often manifests as swelling of the temporal region. It usually occurs after cranioencephalic trauma.

We report an observation.

Case report

This was a 17-year-old boy who presented with a subcutaneous swelling, right temporal, pulsatile, painless, which appeared three weeks after a cranioencephalic trauma following a sports accident. The lesion appeared gradually one week after the trauma. The interview found a notion of brief initial loss of consciousness (BIC).

Physical examination revealed a soft, pulsatile, painless 1.5-cm right temporal mass (Fig. 1). The remainder of the clinical and laboratory examination was normal.

Vascular imaging, including Doppler ultrasound and cerebral CT angiography, confirmed the diagnosis of aneurysm of the right superficial temporal artery. (Fig. 2). Monitoring showed a progressive increase in the size of the swelling, which led, after discussion with the family, to the indication of surgery. The patient underwent surgery with exclusion and excision of the aneurysm.

DISCUSSION

Superficial temporal artery aneurysms, like cerebral aneurysms, occur when there is weakness in the walls of the artery due



Figure 1: Pulsatile, non-painful, round right temporal swelling corresponding to an aneurysm of the superficial temporal artery

to an alteration of their structure. The three tunics are clearly identifiable but the middle tunic is thinned and has become fragile [3]. It is most often the anterior branch of the superficial temporal artery that is affected [4]. In our observation, the affected branch is the anterior auricular branch, the main etiology of which is closed trauma to the skull and/or face [5]. These aneurysms generally occur in the context of a fight (punches, kicks), a fall or sports practice as in our case [5]. Other causes have also been reported [6]: after plastic surgery, neurosurgery or maxillofacial surgery.

Contusion of an arterial segment results in a phenomenon of localized necrosis of the vascular wall, with formation of a hematoma which will evolve into a fibrous pseudo-capsule. This subsequently dilates, very gradually, to give a small pulsatile mass on palpation [7].

In our observation, the patient concerned was a young adolescent of 17 years. In a review carried out by Peick et al., 80% of the cases concerned men aged 20 to 40 years [8]. Temporal aneurysm lesions develop on average two to six

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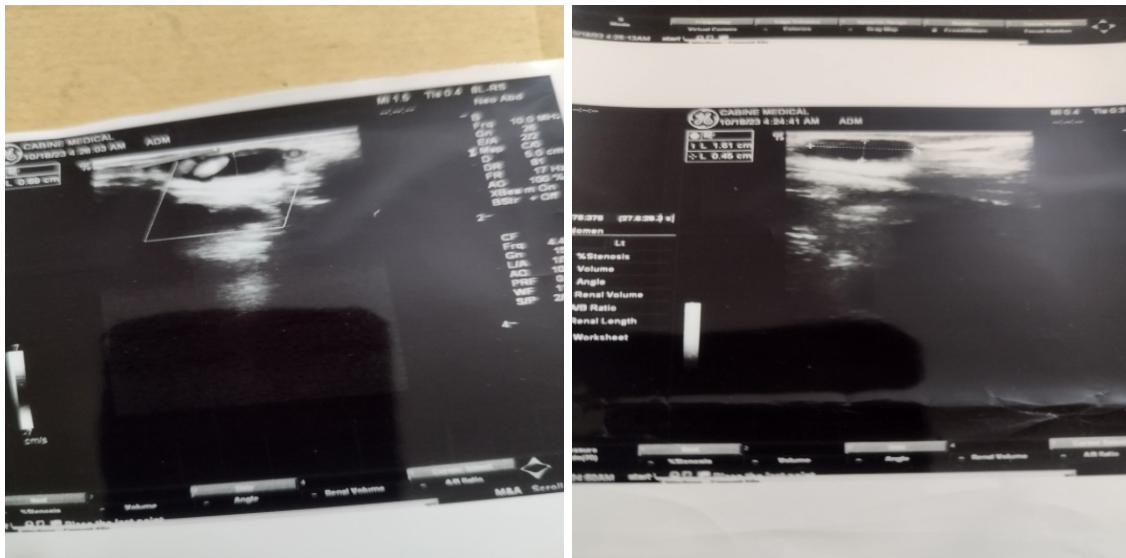


Fig. 3 Brain CT angiography showing right superficial temporal artery aneurysm.

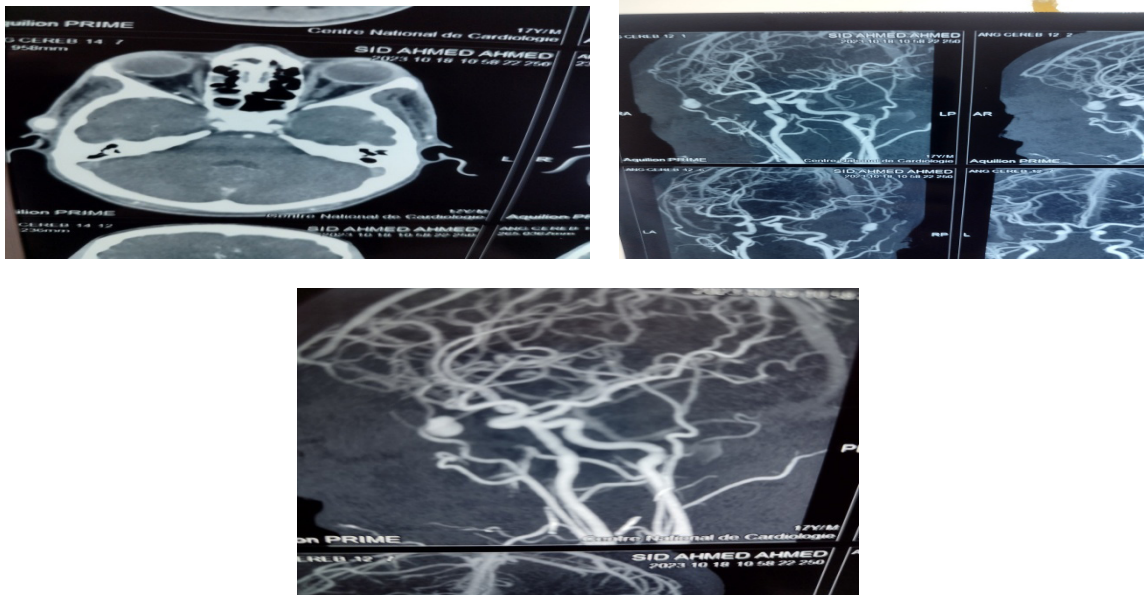


Fig. 3 Operative view + surgical specimen showing the excision of the aneurysm.

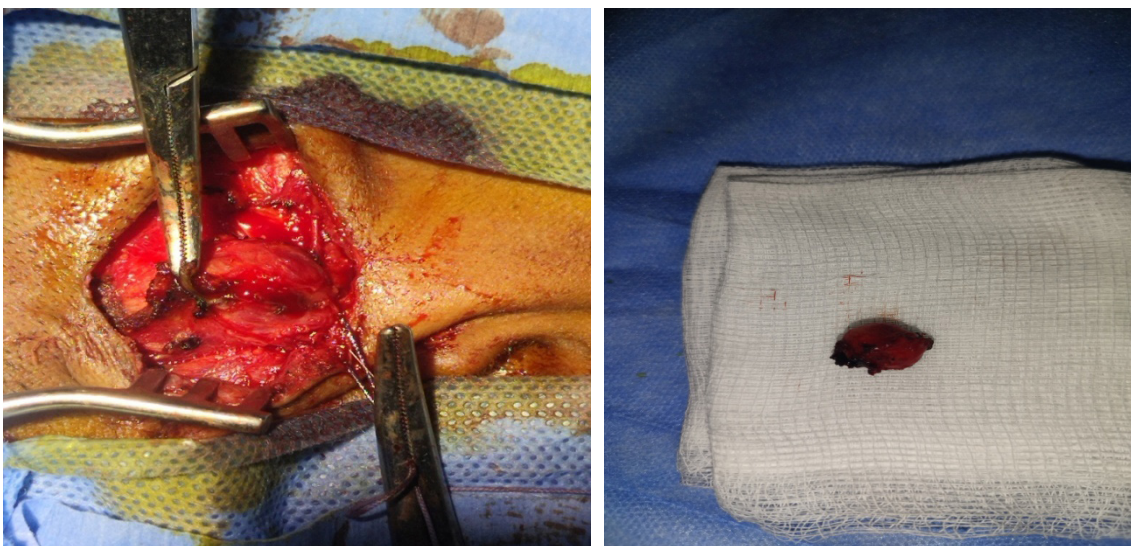
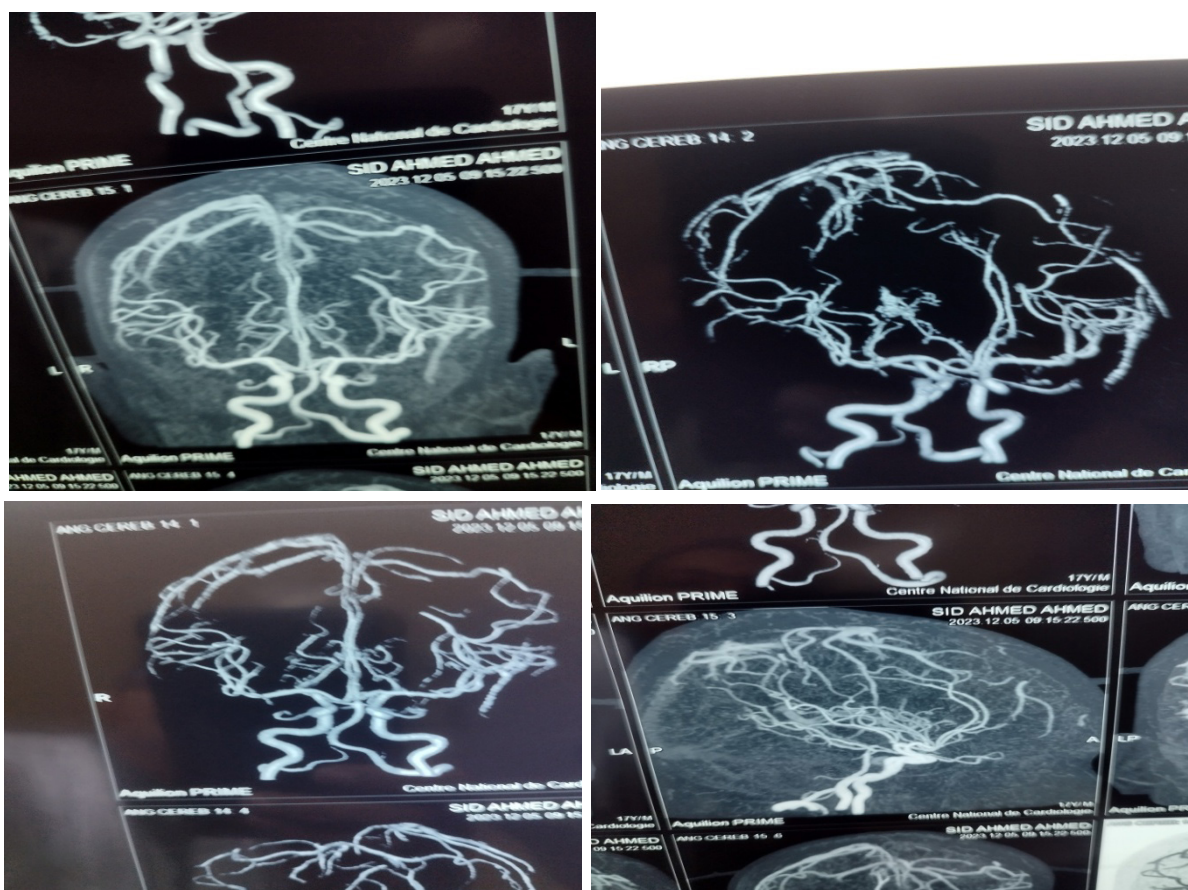


Fig.4 Control brain CT angiography showing complete exclusion of the right temporal artery aneurysm



weeks after a minor trauma to the temporal region [9]. This is the case of our patient, in whom the aneurysm appeared two weeks after a cranioencephalic trauma.

Unilateral, painless, pulsatile temporal swelling is the main presentation of temporal aneurysm. Other symptoms may occur such as pulsatile headaches, visual disturbances, dizziness, hearing impairment, and paresthesia of the temporal region [10].

Vascular imaging, such as Doppler ultrasound and CT angiography, can establish the diagnosis of temporal aneurysm. In some cases described in the literature, the cutaneous formation was taken for a cyst or a lipoma, and was a source of “surprise” during the intervention with the risk of hemorrhage to an alteration of their structure. The three tunics are clearly identifiable but the middle tunic is thinned and has become fragile [3]. It is most often the anterior branch of the superficial temporal artery that is affected [4]. In our observation, the affected branch is the anterior auricular branch, the main etiology of which is closed trauma to the skull and/or face [5]. These aneurysms generally occur in the context of a fight (punches, kicks), a fall or sports practice as in our case [5]. Other causes have also been reported [6]: after plastic surgery, neurosurgery or maxillofacial surgery.

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Vascular imaging, such as Doppler ultrasound and CT angiography, can establish the diagnosis of temporal aneurysm. In some cases described in the literature, the cutaneous formation was taken for a cyst or a lipoma, and was a source of “surprise” during the intervention with the risk of hemorrhage [11]. This justifies the important place of vascular imaging to confirm the diagnosis.

Surgical exclusion-excision is the treatment of choice for this lesion. Given the richness of the network of collaterals in the temporal region and the face, vascular reconstruction is unnecessary and simple excision after ligation of the collaterals is the treatment of choice [12-13].

CONCLUSION

Superficial temporal aneurysm is a rare clinical entity. It should be considered in the presence of any pulsatile temporal swelling following trauma. Vascular imaging has become mandatory nowadays to confirm the diagnosis, by showing a loss of parallelism of the fragile vascular edges with turbulent flow with or without thrombosis and a resistive spectrum, in order to avoid serious incidents during a blind intervention.

Conflicts of interest:

The authors declare no conflicts of interest.

References

1. Chatelain B, Meyer C, Vitte F, Ricbourg B. Faux-anévrisme de l'artère temporale superficielle: à propos de deux cas. *Rev Stomatol Chir Maxillofac*. 2009 Nov;110(5):299-302.
2. Van Uden D.J., Truijers M., Schiper E.E. Superficial temporal artery aneurysm: diagnosis and treatment options. *Head Neck* 2013 ; 35 : 608-14.
2. Chatelain B., Meyer C., Vitte F. False aneurysm of the superficial temporal artery: report of two cases. *Rev Stomatol Chir Maxillofac* 2009 ; 110(5) : 299-302.
3. Stéphane L., Patrick L., Pierre G. Anévrisme temporal post-traumatique : à propos de deux cas. *Sang Thromb Vaiss* 2004 ; 16(3) : 164-5.
4. Ricbourg B., Mitz V., Lassau J.P. Artère temporale superficielle : étude anatomique et déductions pratiques. *Ann Chi Plast* 1975 ; 20 : 197-213.
5. Conner W.C.H., Rohrich R.J., Pollock R.A. Traumatic aneurysms of the face and temple: a patient report and literature review. *Ann Plast Surg* 1998 ; 41 : 321-6.
6. 7. De Vogelaere K. Traumatic aneurysm of the superficial temporal artery: case report. *J Trauma* 2004 ; 57 : 399-401.
7. Manz J.H., Gomes M.N. Sports injury as cause of traumatic pseudoaneurysms of superficial temporal artery. *Arch Pathol Lab Med* 1984 ; 108 : 775-6.
8. Peick A.L., Nichols W.K., Curtis J.J., Silver D. Aneurysms and pseudoaneurysms of the superficial temporal artery caused by trauma. *J Vasc Surg* 1988 ; 8 : 606-10.
9. Dominique J.P., Van U., Maarten T. Superficial temporal artery aneurysm: diagnosis and treatment options. *Head Neck* 2013 ; 35(4) : 608-15.
10. 11. Jimenez J.C., Nassoura Z., Morris L.F., Hu D. Late traumatic aneurysm of the superficial temporal artery. *J Vasc Surg* 2011 ; 54 : 1174
11. Corvino A., Catalano O., Corvino F. Superficial temporal artery pseudoaneurysm: what is the role of ultrasound?. *J Ultrasound* 2016 ; 19 : 197-201.
12. Chen S.S., Prasad S.K. Traumatic pseudoaneurysm of superficial temporal artery: a case report. *J Clin Ultrasound* 2009 ; 37 : 312-4.

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