

Case Report:

SPONTANEOUS (TRUE) ANEURYSM OF THE SUPERFICIAL TEMPORAL ARTERY

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ABSTRAK

Aneurisma spontan arteri temporal dangkal (STA) jarang terjadi. Meskipun aneurisma STA memiliki jalur yang relatif jinak, bila dibandingkan dengan aneurisma arteri kaliber yang lebih besar, kadang-kadang dapat menyebabkan perdarahan parah dan dikaitkan dengan banyak gejala yang mengganggu. Tujuan dari penelitian ini adalah untuk melaporkan kasus pria berusia 72 tahun yang dipresentasikan dengan aneurisma STA spontan. Seorang pria berusia 72 tahun disajikan dengan benjolan di sisi temporal kanannya tanpa riwayat trauma sebelumnya dan ada riwayat hipertensi lama. Benjolan tersebut pertama kali diketahui 2 tahun sebelumnya dan secara bertahap meningkat dalam ukuran terutama dalam 6 bulan terakhir. Pada pemeriksaan fisik ada massa berdenyut sekitar 2 cm dengan diameter tepat di atas telinga kanan. Tidak ada sensasi dan bruit. CT angiografi menunjukkan temuan yang sesuai dengan aneurisma STA. Pasien menjalani ligasi proksimal dan distal arteri temporal superfisial dan eksisi aneurisma. Pemeriksaan histopatologis memastikan adanya aneurisma STA yang benar. Masa operasi pasca operasi berlangsung lancar. Sebagai kesimpulan, aneurisma STA spontan paling baik ditangani dengan prosedur operasi. Ini terdiri dari ligasi dan eksisi. Sederhana, aman, dan menghindari kekambuhan. (FMI 2017;53:159-162)

Kata kunci: arteri temporal superfisial, aneurisma sejati

ABSTRACT

Spontaneous aneurysms of the superficial temporal artery (STA) are rare. Although STA aneurysms have a relatively benign course, when compared with aneurysms of larger caliber arteries, they may occasionally lead to severe hemorrhage and be associated with a multitude of bothersome symptoms. The objective of this study was to report a case of 72-year old male presented with spontaneous STA aneurysm. A 72 years old male presented with a lump on his right temporal side without any previous history of trauma and there was history of long standing hypertension. The lump had first been noticed 2 years before and it had been gradually increasing in size especially within last 6 months. On physical examination there was a pulsatile mass around 2 cm in diameter just above right ear. There was no thrill and bruit. CT angiography showed findings compatible with a STA aneurysm. The patient underwent proximal and distal ligation of the superficial temporal artery and excision of the aneurysm. Histopathological examination confirmed a true aneurysm of STA. The post operative period was uneventful. In conclusion, spontaneous STA aneurysm was best managed by surgical procedure. It consists of ligation and excision. It is simple, safe, and avoids recurrence. (FMI 2017;53:159-162)

Keywords: superficial temporal artery, true aneurysm

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INTRODUCTION

Superficial temporal artery (STA) aneurysms are very infrequent. Moreover, true aneurysms, which are not pseudoaneurysms associated with trauma or previous surgery are even rarer (Delen et al. 2016). Spontaneous STA aneurysm are usually atherosclerotic in origin (Bozkurt et al 2011, Riaz et al 2004). Here, we present a case of true superficial temporal artery aneurysms arising without any previous history of trauma.

CASE REPORT

A 72-year-old male was referred to the Thoracic, Cardiac, and Vascular outpatient clinic with a 2-year history of a lump on anterior of his right ear which had gradually been increasing in size especially within last 6 months. The lump was painless, and the patient denied any previous history of trauma or surgery in the region to this area. Hypertension was present at the patient's medical history. On Physical Examination, there was a pulsatile mass around 2 cm on preauricular region, which had well demarcated edges and there was no bruit or thrill over it. (see Figure 1)



Fig. 1. On physical examination, there was a pulsatile mass around 2 cm on right temporal region (red arrow)

Three dimensional Computed Tomography Angiography revealed aneurysmal dilatation on the right superficial temporal artery about 2 cm in size. (see Figure 2 a&b)

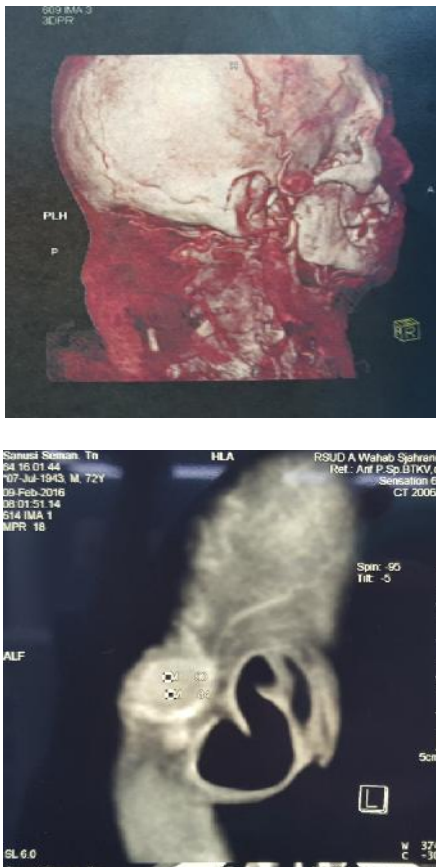


Fig. 2a & b. CT angiography revealed there was a dilatation on the right superficial temporal artery (blue arrow)

Due to the mass was increasing gradually so it was surgically excised. The surgery was uneventful and confirmed the mass to be a STA aneurysm, with three feeding vessels; it measured approximately 2 cm in size. (see Figure 3)



Fig. 3. Intra-operative image of the superficial temporal artery aneurysm with its branches clearly shown.

This was sent for histological examination, Figure 4 shows a section of superficial temporal artery stained with hematoxylin and eosin (H&E). There is dilatation involving all layers of the arterial wall, suggesting true aneurysm formation. There is hyperplasia of the tunica intima and media, but no evidence of atherosclerosis, giant cells or inflammation.

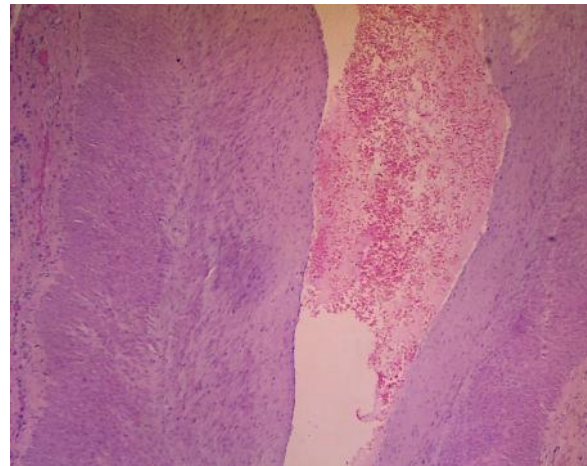


Fig. 4. Section of superficial temporal artery stained with hematoxylin and eosin (H&E). There is dilatation involving all layers of the arterial wall, suggesting true aneurysm formation

The postoperative course was good, and the patient was doing well on follow-up.

DISCUSSION

Superficial Temporal Artery (STA) is the terminal branch of the external carotid artery and one of the main feeders of the scalp. STA, in its anatomic course, becomes superficial on the zygomatic process after passing the parotid gland and is divided into branches of the anterior frontal and posterior parietal. The artery was covered by time temporal muscle, lipomatous tissue and skin after the zygomatic process (Delen et al 2016). True aneurysms are defined from histological examination, where all three layers of the arterial wall are seen to be intact; they are due to a weakness in the vessel wall, which may be congenital in nature or associated with atherosclerosis. True aneurysms are distinct from false (or 'pseudo-') aneurysms, in which there is a partial break in the arterial wall, usually the result of trauma (Riaz et al. 2004).

Superficial temporal artery aneurysms are rare; when they do occur, they are usually associated with head trauma. Spontaneous true aneurysms of the superficial temporal artery are extremely rare (Zivkovic et al 2015). True aneurysms are seen only in 10% of all STA aneurysms. Van Uden's study shown that 20 of 166 cases of STA aneurysms were identified as a true aneurysm (van Uden et al. 2013). Uchida and Sakuma found only 9 cases (18.8%) were true aneurysms with only single cases of congenital, arterial dissection, and atherosclerotic aneurysms (Uchida et al 1999). The exact pathophysiology of the true aneurysms has not been established. The spontaneous STA aneurysm seems to be mainly caused by an acquired factor, such as the hypertension or the arteriosclerosis (Bozkurt et al 2011, Riaz et al 2004). In our case, patient presented without any previous trauma and found a present of hypertension medical history.

The majority of patients with true STA aneurysms were identified with a pulsatile painful mass. True STA aneurysms have been described as well as association of these lesions with intracranial and other external carotid artery branches aneurysms (Kawai et al 2014, Ohta et al 2003). The differential diagnosis includes sebaceous cyst, neuroma of the facial nerve, reactive lymph node, dural arteriovenous fistula, parotid gland lesion (van Uden et al 2013, Kawai et al 2014). The clinical diagnosis is confirmed by duplex ultrasonography. Computed tomography- or magnetic resonance angiography is useful chiefly for detecting associated intra- and extracranial aneurysms (van Uden et al 2013, Kawai et al 2014). In the case presented, patient presented with painless pulsatile mass and the diagnosis was confirmed by CT-angiography.

Therapeutic options for STA aneurysms described in the literature include observation, compression, thrombin injection, endovascular coil embolization, and surgical resection (van Uden et al 2013, Pejkcic et al 2014). The recognised indications for surgery include pain, rapidly increasing size, cosmesis, changes to the overlying skin or adjacent structures. In the literature, there is no indications as to the optimum size of the aneurysm to initiate surgical excision (Riaz et al 2004). The surgical indication in this case were increasing size of the mass and cosmesis. Surgical excision may be done under local or general anaesthesia. Surgical excision includes full dissection of the aneurysm with complete ligation of all feeding vessels.

CONCLUSION

Although true aneurysm of the STA represents a surgical rarity, a wide spectrum of underlying etiologies is described in the literature. The standard treatment consists of excision of the aneurysm (aneurysmectomy) with proximal and distal vessel ligation, it can be done under local or general anaesthesia. Surgery is a best option for this disease and give best result.

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