Superficial temporal artery pseudoaneurysm

Superficial temporal artery pseudoaneurysm (STAP) is an uncommon complication of blunt and penetrating trauma. It accounts for only 1% of all traumatic aneurysms. Superficial temporal artery pseudoaneurysm usually has the characteristic appearance of a cystic pulsatile mass in the region of the superficial temporal artery.

The majority of them are induced by blunt trauma.

Eleven cases of traumatic external carotid artery branch pseudoaneurysms were admitted to the Second Affiliated Hospital of Jiaxing University. Digital subtraction angiography was performed in all patients. It revealed that the pseudoaneurysms originated from the internal maxillary artery in 5 cases, a superficial temporal artery in 5 cases, and occipital artery in 1 case. Five cases of internal maxillary artery pseudoaneurysms and 2 cases of superficial temporal artery pseudoaneurysms were treated by embolization; the other 3 cases were surgically resected.

Complete cessation of nasal bleeding was achieved in all 5 pseudoaneurysms of the internal maxillary artery after the endovascular therapies. Scalp bleeding stopped and scalp defect healed up in 2 patients with superficial temporal artery pseudoaneurysms treated by interventional therapy. All patients were followed up for 0.5-2.0 years without recurrence of nosebleed and scalp lump.

For patients with repeated severe epistaxis, after craniocerebral injury, digital subtraction angiography should be performed as soon as possible to confirm a traumatic pseudoaneurysm. Endovascular therapy is an effective method for traumatic internal maxillary artery pseudoaneurysms. For patients with scalp injury and pulsatile lumps, further examinations including digital subtraction angiography should be performed to confirm the diagnosis. Surgical treatment or endovascular therapy for scalp traumatic pseudoaneurysm is effective [1)].

To the knowledge of Xu et al. pseudoaneurysm of superficial temporal artery induced by scalp laceration has never been reported.

A 20-years-old man complained pulsatile headache with lump on right temple was admitted to our department. He had history of frontal scalp laceration 2 weeks before the admission and physical examination revealed one healed scar over the lump. Based on the characteristics of headache and lump, surgical excision was taken and diagnosis was confirmed intraoperatively and by pathological examination postoperatively. The postoperative course was uneventful.

Despite pseudoaneurysm of STA is extremely rare after scalp laceration, this case may warrant the potential complication of pseudoaneurysm especially if scalp laceration courses over the branches of superficial temporal artery [2)].

A 45-year-old male who underwent craniotomy for excision of meningioma. One month postoperatively, the craniotomy flap exhibited an enormous diffuse pulsate swelling. The suspected diagnosis of pseudoaneurysm arising from superficial temporal artery was confirmed on angiography. Surgical excision was done and no recurrences of the tumor or aneurysm were noted on subsequent

follow-up [3].

A case of posttraumatic STAP detected by US in the emergency department (ED). A 58-year-old woman presented to our ED with a tender right frontoparietal mass. Two weeks before the presentation, the patient was involved in a motor vehicle accident (MVA) and was taken to the state hospital where the result of a computed tomography scan of the head was shown to be normal except for right frontoparietal soft tissue swelling and hematoma formation. A few days after discharge, the diameter of the soft tissue swelling decreased, and the patient as well. However, 2 weeks after the MVA, the patient presented to the ED with a throbbing headache and a dramatic increase in the diameter of the lesion. Examination showed a 5 x 5-cm swelling, which was soft, tender, and fluctuant on palpation. The swelling was not pulsatile. Ultrasound was performed using a 7.5-MHz probe and demonstrated a well-defined, pulsatile, anechoic mass measuring approximately 50 x 50 mm in diameter. Ultrasound is a valuable and readily available tool in the ED to confirm the diagnosis [4].

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