

CASE REPORT

Post-traumatic Pseudoaneurysm of a Branch of Facial Artery

Khaw Chok Tong¹, Mohd Khairi MD Daud^{1,2}, Nor Khairina Khairuddin³, Salinawati Bakin⁴

¹ Department of Otorhinolaryngology, School of Medical Sciences, Health Campus, Universiti Sains Malaysia 16150 Kubang Kerian, Kelantan, Malaysia

² Otorhinolaryngology Specialist Clinic, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia

³ Department of Otorhinolaryngology, Hospital Sultanah Aminah, 80100 Johor Bahru, Johor, Malaysia.

⁴ Department of Radiology, Hospital Sultanah Aminah, 80100 Johor Bahru, Johor, Malaysia.

ABSTRACT

Pseudoaneurysm which is also known as a false aneurysm is caused by extravasation of blood from the injured vessel wall which is contained by the surrounding soft tissue. It does not contain any layer of the vessel wall and can expand as more and more blood collects. We are reporting a case of an 18-year-old Indian gentleman who presented with complaint of left neck swelling after being involved in a motor vehicle accident. Examination showed a softly pulsating swelling at the angle of the left mandible. CT angiogram revealed a pseudoaneurysm of a branch of the left facial artery. The pseudoaneurysm was embolized by using histoacryl glue. Pseudoaneurysm should be considered as a differential diagnosis in patients with a pulsatile mass after trauma.

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Corresponding Author:

Mohd Khairi Md Daud, MMed (ORL-HNS)

Email: khairick@usm.my

Tel: +609-7676413

INTRODUCTION

An aneurysm is an abnormal focal dilatation of an artery due to weakness of the vessel wall. On the other hand, a pseudoaneurysm, which is also known as a false aneurysm, does not contain any layer of the vessel wall. It is caused by the extravasation of blood from the injured vessel wall which is contained by the surrounding soft tissue which eventually forms a wall around the blood. Therefore, there will be a collection of blood around the injured vessel which can expand as more and more blood collects. When the pseudoaneurysm grows big enough, it may rupture and cause severe bleeding leading to hemorrhagic shock. In the head and neck region, it is rarely encountered in clinical practice especially pseudoaneurysm of the facial artery.

CASE REPORT

An 18-year-old Indian gentleman presented with complaint of left neck swelling for two weeks. He was involved in a motor vehicle accident 25 days prior to the presentation and sustained a wound around the angle of the left mandible. Toileting and suturing of the wound were done in a clinic. However, after about 11

days from trauma, he started to notice a swelling at the wound site which was increasing in size and pain. He also felt pulsation at the swelling.

On examination, there was a softly pulsating swelling at the angle of the left mandible measuring 3cmx3cm (Fig. 1). The overlying skin healed with scarring. About 15ml of blood was aspirated from the swelling and it collapsed and then re-expanded immediately.

Patient was admitted to the ward and CT angiogram was ordered and it showed a pseudoaneurysm of a branch of the left facial artery. Embolization of the pseudoaneurysm was done in the same admission. The pre-embolization angiogram demonstrated collection of contrast at the pseudoaneurysm site and it was embolized by using histoacryl glue (Fig. 2). The patient was discharged with a course of antibiotic the following day without any complication. Upon follow-up one month later, the swelling had resolved completely.

DISCUSSION

Pseudoaneurysm of the head and neck regions is uncommonly encountered. However, pseudoaneurysms of superficial temporal, internal maxillary, and facial arteries had been reported with superficial temporal artery having the highest incidence (1). These pseudoaneurysms can happen due to blunt or penetrating trauma or inadvertent injuries during surgery. Payami



Fig. 1: A swelling at the angle of the left mandible

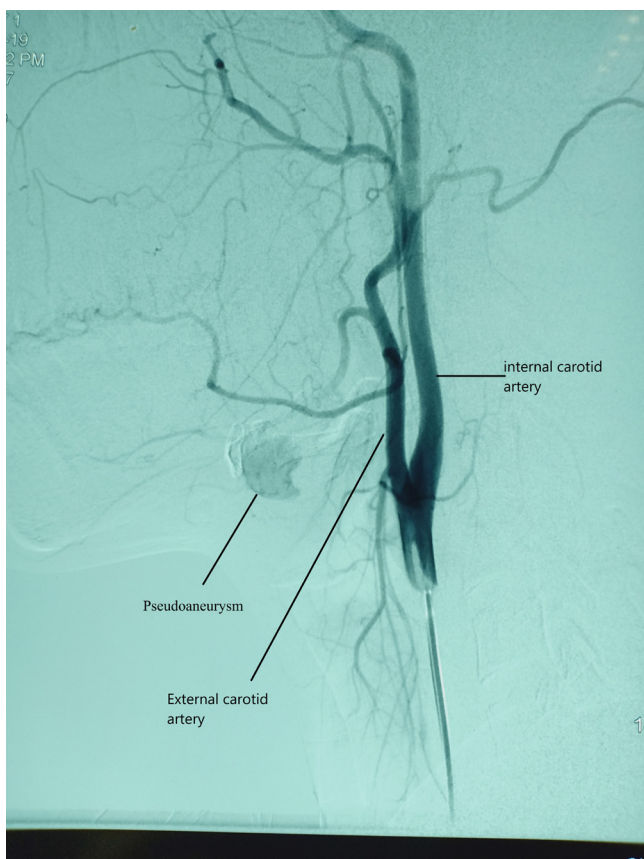


Fig. 2: Pre-embolization angiogram showing a pseudoaneurysm of a branch of the left facial artery

reported a case of facial artery pseudoaneurysm after a punch to the face (1). It can also occur after mandibular sagittal split ramus osteotomy as reported by Jo et al. (2). Likewise, Dudaryk et al. reported a case of bleeding facial artery pseudoaneurysm a few weeks after jaw surgery (3). Idiopathic pseudoaneurysm of facial artery was also reported in an elderly patient (4).

In terms of clinical presentation, facial artery pseudoaneurysm usually develops gradually over a period of a few weeks as seen in our case and can be associated with pain. The mass is commonly pulsatile. It can cause severe bleeding resulting in shock (2). Profuse intraoral bleeding can obscure the view of the larynx, hence prohibiting oral or nasal intubation (3). Diagnosis of pseudoaneurysm can be confirmed by CT angiogram or MRI.

In cases of severe intraoral bleeding, digital pressure can be applied over the mandible at the anterior border of the masseter to reduce bleeding while the airway is secured by tracheostomy if intubation is not possible (3). Definitive treatment of facial pseudoaneurysm includes open surgery or embolization. Payami described his treatment which included ligating the facial artery first followed by excision of the pseudoaneurysm and concluded that it is a safe technique to deal with facial pseudoaneurysm (1). However, open surgery might be complicated with scarring or excessive bleeding (2). Also, open surgery has to be done under general anesthesia in anticipation of excessive bleed and pain. On the other hand, Wang et al. did a study on 17 patients who underwent embolization for external carotid branches pseudoaneurysm and found that all patients recovered well with no complications (5). Out of the 17 patients, 11 patients underwent embolization under local anesthesia (5). In our patient, the swelling resolved after embolization without any complication. The possible complications from embolization include neurological complications like stroke or transient ischemic attack and skin necrosis at the embolized site (5). Besides being an accurate diagnostic tool, angiography is also a safe, quick, and effective treatment of pseudoaneurysm of facial artery.

CONCLUSION

Pseudoaneurysm of facial artery is a rare occurrence. Nonetheless, it should always be suspected in patients with a pulsatile mass at the angle of mandible especially after trauma. The bleeding from the pseudoaneurysm can be catastrophic if not addressed promptly. Diagnosis can be confirmed by either CT angiogram or MRI. In terms of treatment, both open surgery or embolization may be performed.

REFERENCES

1. Payami A, Montazem AH. Surgical Treatment of

- Facial Artery Pseudoaneurysm Following Blunt Trauma: Report of a Case. *J Oral Maxillofac Surg.* 2017;75(2):362.e1-.e5. doi: 10.1016/j.joms.2016.10.008.
2. Jo HW, Kim YS, Kang DH, Lee SH, Kwon TG. Pseudoaneurysm of the facial artery occurred after mandibular sagittal split ramus osteotomy. *Oral Maxillofac Surg.* 2013;17(2):151-4. doi: 10.1007/s10006-012-0339-4.
 3. Dudaryk R, Horn DB, Green JM 3rd. Facial Artery Pseudoaneurysm: Challenges of Airway Management. *Anesth Prog.* 2018;65(1):52–5. doi: 10.2344/anpr-65-02-09.
 4. Dediol E, Manojlovic S, Biocic J, Franceski D, Ivanac G. Facial artery pseudoaneurysm without evidence of trauma. *Int J Oral Maxillofac Surg.* 2011;40(9):988-90. doi: 10.1016/j.ijom.2011.03.010.
 5. Wang D, Su L, Han Y, Fan X. Embolization treatment of pseudoaneurysms originating from the external carotid artery. *J Vasc Surg.* 2015;61(4):920-6. doi: 10.1016/j.jvs.2014.10.093.