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PSEUDOANEURYSM OF INTERNAL MAXILLARY ARTERY RESULTING FROM BLUNT FACIAL TRAUMA – AN UNUSUAL CASE

ABSTRACT

Aneurysm is a localized pathological dilatation of blood vessel. Pseudoaneurysm, also known as false aneurysm, is an out-pouching of a blood vessel with disruption of one or more layers. Pseudoaneurysm results from blunt or penetrating trauma, orthognathic surgery, temporomandibular joint surgery and infection. Sometimes, it may be congenital, as the Berry aneurysm. Pseudoaneurysm of the internal maxillary artery is very rare. We present an unusual case of pseudoaneurysm of the internal maxillary artery, which presented as massive epistaxis following blunt trauma to the face.

Keywords : Maxillary artery, Pseudoaneurysm, Trauma

INTRODUCTION

A pseudoaneurysm is an extravascular hematoma that communicates with the intravascular space. Pseudoaneurysm occurs when there is a partial disruption in the wall of a blood vessel, causing a hematoma that is either contained by the vessel adventitia or the perivascular soft tissue (pseudocapsule).¹ It usually develops over a period of one to eight weeks after trauma. Pseudoaneurysm may remain asymptomatic, but the usual fate is rupture, leading to massive haemorrhage, thromboembolism or compression of the neurovascular spaces.² We present an unusual case of pseudoaneurysm of the internal maxillary artery, which presented as massive epistaxis following blunt trauma to the face.

CASE REPORT

A 39 years old male presented to our emergency with history of massive, intermittent right nasal bleeding for last four months. He didn't have any other co-morbidity. He had history of blunt trauma to right side of face two days prior to the first episode of bleeding, which was profuse in amount (nearly 500 mL), treated in local hospital with anterior nasal packing. The bleeding was recurrent and massive, for which he underwent repeated anterior nasal packing and multiple blood transfusion. During three weeks of stay in our hospital, he underwent anterior nasal packing once and intranasal invotec balloon placement once with three pints of blood transfusion. Coagulation profile, bleeding profile,

renal function tests and liver function tests were normal. Contrast enhanced CT scan of nose and paranasal sinuses revealed around 1.6 cm sized intensely enhancing nodular lesion in the right maxillary sinus with peripheral nonenhancing soft tissue with bony erosion of posterior wall of the right maxillary sinus. Differential diagnosis of haemangioma, angiomatous polyp and pseudoaneurysm was suggested by the radiologist. CT angiography was done, which confirmed the diagnosis of pseudoaneurysm of the right internal maxillary artery. Patient underwent selective embolisation of the right internal maxillary artery using microcoils. Since then the patient had no nasal bleeding and nasoendoscopy was normal.

DISCUSSION

Pseudoaneurysm is a rare clinical entity. Undiagnosed and untreated pseudoaneurysm carries the risk of life threatening haemorrhage if the wall of the sac ruptures. Pseudoaneurysms have a variety of causes, including inflammation, infection, trauma, iatrogenic (eg. Surgery, percutaneous biopsy). Pseudoaneurysm of the internal maxillary artery is very rare which occurs usually secondary to blunt or penetrating trauma, temporomandibular joint surgery or orthognathic surgery.³⁻⁵ Most of the internal maxillary artery pseudoaneurysm occurs in the terminal pterygopalatine segment.⁶ Arteriography is the standard procedure for diagnosis of pseudoaneurysm of maxillofacial region. Other modalities like Doppler USG, CT scan and MRI

can be used for its diagnosis.^{1,3,4} Treatment of pseudoaneurysm consists of nonsurgical modalities (like embolization, stent placement) and surgery.

Nonsurgical treatment modalities like selective embolization forms the safe and effective treatment for pseudoaneurysm.⁷ Different materials, such as absorbable gelatin sponge, polyvinyl alcohol particles, acrylic glues, and metal coils, may be used for embolization.^{3,4,8} Even when the previous embolization has failed, a repeat procedure should be opted due to chance of successful embolization, as the surgical treatment carries high risk of complications. Metal coils made of platinum was used in our case. Platinum are softer and have a more complex (helical) shape, so, such coils conform to the shape of and fill the pseudoaneurysmal sac. Complications associated with endovascular techniques include intraprocedural rupture of the pseudoaneurysm, recanalization of the embolized vessel and reconstitution of arterial flow to the pseudoaneurysm (delayed failure of embolization), blindness, cranial nerve palsies and stroke.

CONCLUSION

Pseudoaneurysm should be considered in differential diagnosis of traumatic epistaxis. Embolization is safe and effective treatment for pseudoaneurysm. So, it should be the first line of treatment in such cases.

REFERENCES:

1. Zachariades N, Skoura C, Mezitis M, Marouan S. Pseudoaneurysm after a routine transbuccal approach for bone screw placement. *J Oral Maxillofac Surg.* 2000; 58(6): 671–673.
2. D’Orta JA, Shatney CH. Post-traumatic pseudoaneurysm of the internal maxillary artery. *J Trauma.* 1982; 22(2): 161 -164.
3. Krishnan DG, Marashi A, Malik A. Pseudoaneurysm of internal maxillary artery secondary to gunshot wound managed by endovascular technique. *J Oral Maxillofac Surg.* 2004; 62(4): 500–502.
4. Zachariades N, Rallis G, Papademetriou G, Papakosta V, Spanomichos G, Souelem M. Embolization for the treatment of pseudoaneurysm and transection of facial vessels. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2001; 92(5): 491–494.
5. Procopio O, Fusetti S, Liessi G, Ferronato G. False aneurysm of the sphenopalatine artery after a Le Fort I osteotomy: report of 2 cases. *J Oral Maxillofac Surg.* 2003; 61(4): 520–525.
6. Luo CB, Teng MM, Chang FC, Chang CY. Role of CT and endovascular embolization in managing pseudoaneurysms of the internal maxillary artery. *J Chin Med Assoc.* 2006; 69: 310-6.
7. Rogers SN, Patel M, Beime JC, Nixon TE. Traumatic aneurysm of the maxillary artery : the role of interventional radiology. A report of two cases. *Int J Oral Maxillofac Surg.* 1995; 24(5): 336-339.
8. Kish JW, Katz MD, Marx MV, Harrell DS, Hanks SE. N-butyl cyanoacrylate embolization for control of acute arterial hemorrhage. *J Vasc Interv Radiol.* 2004; 15(7): 689–695.

