Arteriovenous malformations (AVMs) are composed of abnormally connecting feeding arteries and draining veins, lack of a regulatory system, where abnormal pulsations, thrill and, even, bruit can be detected. The mass grows gradually and some portions accompany necrosis because of arterial steal from normal capillary bed. Some patients complained of headache, tinnitus, flushed face and hemorrhage besides pulsatile growing mass.

The treatment of huge AVM in the head and neck regions is challenging for functional and cosmetic defect after surgery. Even some cases are life-threatening that is ascribed to infection or massive bleeding from AV fistula formation or surgical excision. Frequent recurrences and unpredictable behavior are another problem. The management of AVM mainly consists of surgery and endovascular surgery. But there has been controversy on the indications and results of each treatment modality and there is no single gold standard method for complete cure. We report a complicated case of huge AVM with fistula and massive bleeding in the head and neck region to share treatment experience with literature reviews.

Case Report

Female / 25 years

C.C. Bleeding from the right external auditory canal onset: 7 days ago

P.J Right complete facial palsy
- 8Y.A small right infraparotid mass with pulsatile and thrilling nature
CT; 1.5x1.5cm sized and well-enhanced mass in the right parotid gland (Fig. 1).
=> Arteriovenous (AV) malformations on ultrasonography-color Doppler image.
=> Recommendation: endovascular surgery or surgical excision.
=> Refused by the patient.
Visit again: massive bleeding from right EAC
=> Packing with antibiotics oint gauzes and compression of the right ear.
=> Mass occupying parotid space with increased vascularity and extent (Fig 2).

Angiography: multiple feeding arteries arising from right external carotid artery (ECA) and dilated and tortuous external jugular vein (Fig. 3A). The AV malformation extended from masticator space to skull base. Furthermore, another feeding artery derived from left ECA (Fig. 3B).

- Aggravating clinical courses
1) Some trials of transarterial embolization in some tertiary hospitals which were specialized for endovascular surgery were failed and
2) Increased serosanguinous discharge, c-reactive protein (CRP) and body temperature indicated a wound infection for prolonged compression and dressing.

DISCUSSION

The subsequent network creates a nidus of vascular ectasia with an inherent growth potential. Complete eradication of this nidus of an AVM is the only way to cure the disease. In general, any treatment of an AVM must offer patients a significant advantage over the natural history. There have been few reports about devastating cases due to intractable hemorrhage and infection like this case. For complicated lesions, multidisciplinary approach that consists of complete surgical excision after preoperative angiography with selective embolization is feasible. Some centers proposed that embolization may be performed to reduce the size of an AVM and make it adequate size for next radiosurgery in case of large AVMs that are not indicated for surgical excision. Injury, surgical intervention or hormone can stimulate the growth. Although recent endovascular technique has advanced, ineffective embolization may deteriorate the disease. In present case, repeated embolization and compression aggravated wound necrosis and subsequent larger fistula formation. Well-vascularized free flap is suitable for reconstructing the defect following surgical resection of AVMs. We underwent the latissimus dorsi musculocutaneous free flap, 25x15cm in size and 15 mm in thickness (Fig. 4D).

REFERENCES