Clinical Image

Massive Cervicofacial Arteriovenous Malformation

Yew Toong Liew1*, Elizabeth Lim2 and Prepageran N3
Department of Otorhinolaryngology, University Malaya, Malaysia

CLINICAL IMAGE

A 22 year old gentleman presented with right neck swelling since 6 months of age. It progressively enlarged until it involved the right face. There were no compressive symptoms, bleeding or cardiac symptoms. There was no trauma. Clinically, there was a huge 20 x 20 cm painless swelling situated at the upper part of right neck that extended into right parotid region. Anteriorly, it extended into submandibular region; posteriorly into posterior triangle of neck, and inferiorly until level III limit. Palpable thrill and audible bruit were present (Figure 1). Oral cavity examination was normal. CT angiography of neck showed huge Arteriovenous Malformation (AVM) in right infratemporal fossa and parapharyngeal space (Figure 2). Diagnostic angiography showed extensive right facial arteriovenous malformation with main feeders from right maxillary artery of external carotid artery and ophthalmic branch of right internal carotid artery (Figure 3). There were also contributions from left internal and external carotid artery (Figure 4). Clinically, he was characterized under stage II according to Schobinger classification where he had audible pulsation and bruit [1]. Arteriovenous malformations are fast-flow vascular lesions composed of abnormal arterial and venous vessels connected directly to one another without an intervening capillary bed. The pathogenesis of AVMs is not well understood. It is likely that their development is related to mutations in genes that encode for proteins that are essential for normal vascular development [2]. Extracranial arteriovenous malformations (AVM) of the head and neck are rare conditions. Most frequently, they involve the auricle [2]. Extensive case of maxillofacial AVM could lead to disfigurement, facial dysfunction and recurrent episodes of life-threatening bleeding and high output cardiac failure. Magnetic Resonance Imaging (MRI) and angiography procedures represent the “gold-standard” to evaluate the nature and extent of the AVM lesions [3]. Current treatment concepts include preoperative angiography with super-selective embolization followed by resection of the lesion within a few days [4]. In our case, the patient preferred conservative ‘watch and wait’ policy rather than treatment options such as embolization or surgical excision. Embolisation...
is difficult in this situation as there are multiple feeder arteries from both internal and external carotid arteries. Embolization carries risks of blindness, stroke while surgical excision will involve large defects in head and neck region. Even with advances in plastic reconstruction, function of facial structures may not be as good. He might end up with multiple morbidities such as trismus, change of speech, cranial nerves palsy with severe facial disfigurement, or risk of death due to uncontrollable bleeding intra-operatively. At his young age, any complications that occur will hamper him from thriving in the competitive society. As long as he is under strict follow up, any complications from the lesion can be detected earlier and acted upon timely. The success of treatment should be from the patient’s point of view rather than the doctors’.

REFERENCES


Figure 4 Angiography shows contribution from left internal carotid artery.