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CASE REPORT

# An Unusual Presentation of Arteriovenous Malformation over the Soft Palate in a 25-years-old Male: A Case Report

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*Arteriovenous malformation, Hemangioma, Sclerotherapy*

**ABSTRACT:** Arteriovenous malformations are conditions characterized by abnormal communications between arteries and veins without intervening capillary network. These are caused by the disturbance in the late stages of angiogenesis resulting in persistence of arteriovenous anastomosis present during embryonic life. They may be capillary, lymphatic, arterial, venous or even mixed. Here we present with an unusual case of AVM with the size 4x2 cm over the soft palate and uvula since 3 yrs with no history of any bleeding episodes or trauma. MR angiogram was done revealing an hyper intense lesion measuring 1.9x3.9x1.15 cm involving the soft palate and uvula in oropharynx with the possibility of hemangioma. Debulking of the nidus and primary closure of the wound was done using vicryl 3-0. The post op period was uneventful.

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## INTRODUCTION

Arteriovenous malformation comes under the order of vascular anomalies which also includes vascular tumor such as hemangiomas.[1] These are conditions which are frequently misdiagnosed and hence requires early diagnosis and intervention which otherwise might result in dangerous complications such as bleeding. These lesions are characterized by the nidus which is principally the aberrant arteriovenous network.[2] AVM is mostly a congenital condition but it may also occur following trauma as an acquired event. Vascular malformations enlarge with the growth of the child and may or may not undergo spontaneous involution.[3-5] Vascular malformations can be localized or diffuse errors of embryonic development and are generally classified grounded on the type of abnormal vascular channels and flow characteristics. Although AVM over the head and neck region shows 50% prevalence , AVM over the oral cavity is a rare condition. Treatment of these lesions are complex and involves balancing the risks and benefits of various treatment options available such as intralesional sclerosant injection, surgical debulking, steroid injections, cryotherapy etc.[6] The aim of this report is to present the diagnosis of a rare case of AVM over the soft palate and uvula.

## CASE REPORT

A 25-years-old male patient came with the chief complaints of swelling over his soft palate and uvula since 3 years. There was no history of any trauma or any bleeding episodes. The swelling was not associated with any pain or bleeding. It was associated with difficulty in deglutition. On examination a doughy mass of approximately 4x2 cm was identified over the soft palate also involving the uvula with a purplish hue. MR angiography along with neck angiography was done which showed a well defined lobulated T1 hypointense, T2/ FLAIR hyper intense lesion measuring 1.9x3.9x1.15 cm noted involving the soft palate and the uvula in oropharynx showing no restriction on

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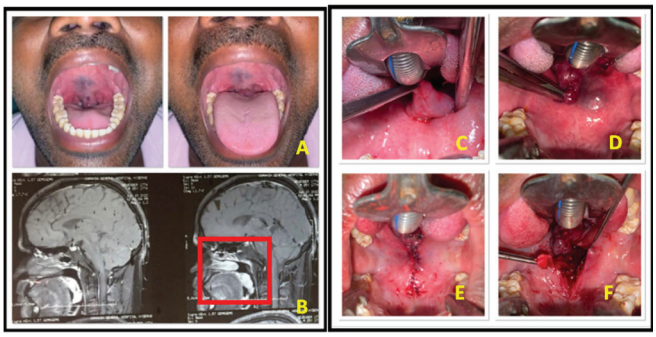
DWI and heterogenous enhancement on post contrast images with the possibility of hemangioma. Surgical debulking was planned and excision of the nidus was done under general anaesthesia through a sub mucosal plane. Intra op the lesion was identified to be in the sub mucosal plane with partial involvement of the muscular layer. Careful dissection through the submucosal plane with careful dissection of the muscles, the excision of the nidus was done and the specimen was sent for histopathological examination and the wound closed using Vicryl 3-0 (Figures 1 and 2).




Pre Op Intra Op

**Figure 1: A-** Pre-op image showing the lesion in the soft palate extending into the uvula. **B-** Pre-op MRA image showing the lesion extending into the oropharynx and upto the epiglottis . **C-** Intra-op image showing the various steps of the debulking procedure done, the lesion can be clearly seen. **D-** Dissection through the submucosal plane with extension into the muscular plane. Excess length of the uvula is resected along with the malformation. **E-** closure of the wound.

**POST OP**

**Figure 2 (Post-op):** F- post-op image of the surgical site

## DISCUSSION

The differential diagnosis for palatal swellings include lesions like Fibroma, palatal abscess, lymphoid lesions or hyperplasia or even malignancy. The possibility of palatal abscess was ruled out due to the absence of signs of inflammation like warmth, tenderness, redness etc.[7] The lack of ulcerations and invasion of the surrounding mucosa or indurations ruled out the possibility of malignant lesions. However, histopathological examination after debulking surgery revealed the lesion to be an AVM. Vascular malformation is a generalized term used to describe a group of lesions present at the time of birth formed by an anomaly of angiovascular or lymphovascular structures.[8] Nearly all cases who present with AVM are children or adolescents but in this case, a 25-years-old male patient presented with the lesion. In the oral cavity these lesions can present at any site the most common one being the anterior two thirds of the tongue leading to macroglossia, difficulty in mastication, speech and deglutition. Other sites which may be involved include palate, mucosa or gingiva.[9] Angiography is the gold standard for the determination of location , the depth and flow characteristics of a vascular lesion.[10] It can differentiate between the different types of vascular lesions and give a visualization in real time for embolization. Also with angiography it is possible to identify the nidus, the extent of lesion and which blood vessels are supplying the lesion and the relative venous outflow characteristics and presence or absence of arteriovenous shunts which are important in determining the appropriate embolization techniques.[11] In this case we did a surgical debulking of the lesion.

## CONCLUSION

AVM should always be kept in mind as one of the differential diagnosis for palatal swellings. Both the radiologist and the surgeon need to be acquainted of its diverse presentation as it may impact the treatment protocol. AVMs are generally misdiagnosed and hence are often mistreated. Hence, correct diagnosis which is of consummate significance for the proper management of vascular anomalies is done by proper history and clinical examination followed by investigations like Color Doppler and angiogram. AVM however is veritably common in the head and neck region, the involvement of areas such as soft palate and uvula are rare and hence should not be misdiagnosed.

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