

Benign Vascular lesions: Case report of Arteriovenous malformation of lower lip

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Abstract:

In the daily practice of medicine, vascular malformations are encountered as the most challenging diagnostic cases and as well as difficult therapeutic enigma. These result as a consequence of vascular system abnormality but never tend to show any signs of involution. Accurate hereditary vascular irregularities which may not be clinically pragmatic till late infancy or premature juvenile. Arteriovenous malformations are usually congenital but the acquired ones occur due to trauma and hormonal changes. The clinical presentation ranges from being a birthmark that is asymptomatic to a natural life intimidating hemorrhage. Here a contemporary situation of vascular abnormality in lower lip of a 46 year old female persistent.

Keywords: Arteriovenous malformation, hemangioma, lip enlargement, feeder vessel

1. INTRODUCTION:

Arteriovenous malformations (AVMs) are abnormal condition with direct connection between blood carrying artery and vein by passes through the capillaries by flowing in veins. [1,2,3,4] Head and neck are more prone to affect by AVM. AVMs have been testified to occur in 0.1% of the people of which extra cranial situation counts for only 8.4% [2]. Vascular abnormalities comprise of low-stream and high-stream sores. Arteriovenous mutations (AVMs) are arranged as high-stream vascular injuries. The AVMs are unprecedented vascular sores are generally seen in upper or lower lip (1). In contrast to hemangiomas, vascular distortions are not tumors. Or maybe, genuine innate vascular abnormalities might not be clinically seen till late on premature juvenile. The AVMs can be hazardous because of potential monstrous discharge and cardiovascular precariousness (2,3). AVMs are among anomalous fistulous associations between taking care of conduits and depleting veins. The depleting veins are enlarged and convoluted and may have variceal changes (3). Practically all patients with AVMs are kids or teenagers (4). Benevolent vascular sores are variations from of vein or endothelial cell multiplication. The benevolent oral vascular sores spoke to 6.4% of considerable number of maladies analyzed through Oral Diagnosis Provision [5,6]. Two greatest normal kinds of vascular skin colorations remain hemangiomas and vascular deformities, however their course and treatment differs [7,8]. Hemangiomas vanish with age however vascular mutations develop immediately with time.

Maximum hemangiomas are normally viewed as inconsequential cancers[8]. In view, VM can be partitioned into low stream and high stream injuries [9,10]. Oral vascular deformities are predominant in the sixth and seventh years of lifetime. Histopathological displays multiplication of endothelial compartments through equilibrium of blood. Careful extraction tracked by embolization is conduct of decision designed for such sores [11]. The mutual entanglement of such injuries is unreasonable draining during excision. Here announced an instance of vascular abnormality present on the lower lip of 46 years old female patient.

Case report:

A female patient as old as 46 year old answered to our dental medical clinic and suffering chief complain of swelling of lower lip since 36 years. The swelling created when the patient was 10 years of age and steadily increased in size according to the present size. The swelling was disturbing the patient on both aesthetic and functional grounds. Patient didn't have any pertinent clinical history and no irregularity was available on general examination. The appearance of the expanding was well defined, reddish blue pigmented of size 5.5x4.5 cm and was lobulated. The midline of the lip was unmistakably obvious with eversion of lip uncovering the gingiva and alveolar mucosa in regard to mandibular front tooth region. Palpation uncovered soft, compressible growing which was portable and overhanging the jawline region. Intraoral assessment indicated a solitary diffused development on the floor of the mouth erythematous in appearance present neighboring lingual frenum estimating 1.5x2.5cm which was delicate in consistency, smooth surfaced and sessile in nature and had a lobulated appearance. There were no indications of whitening after utilization of finger pressure and No throbs were gotten from the sore. There was no clinically noticeable lymphadenopathy.

The case was analyzed clinically as benevolent vascular sore of the lower lip. The differential conclusion clinically included AV contortion, vascular tumor (hemangioma). Laboratory examinations, complete blood tally, and routine blood science were inside ordinary extents. The extracted vascular injury was sent to the pathology division. The histopathologic finding uncovered an arteriovenous malformation. The post-treatment follow-up was palatable.

Colour doppler ultrasonography was done and it uncovered enormous lower lip with echogenic stromal and mediating slim hypoechoic septation with cleavage plane shows blended blood vessel and venous stream in this manner recommending lower lip vascular abnormality with blood vessel and venous stream.

Magnetic resonance imaging uncovers vascular distortion including lower lip with expanded stromal element. midline cleavage plane indicating mixed arterial and venous sign in with feeder from both lingual - veins.

Histopathologically, the hematoxylin and eosin recolored segment indicated fibro collagenous stroma with huge spaces loaded up with blood with thick vascularity present in the stroma.

Treatment plan included embolization followed by careful extraction of the lower lip and remaking.



Figure- 1



Figure- 2



Figure- 3



Figure- 4



Figure- 5 Pre-operational image viewingbulge in Lower lip.

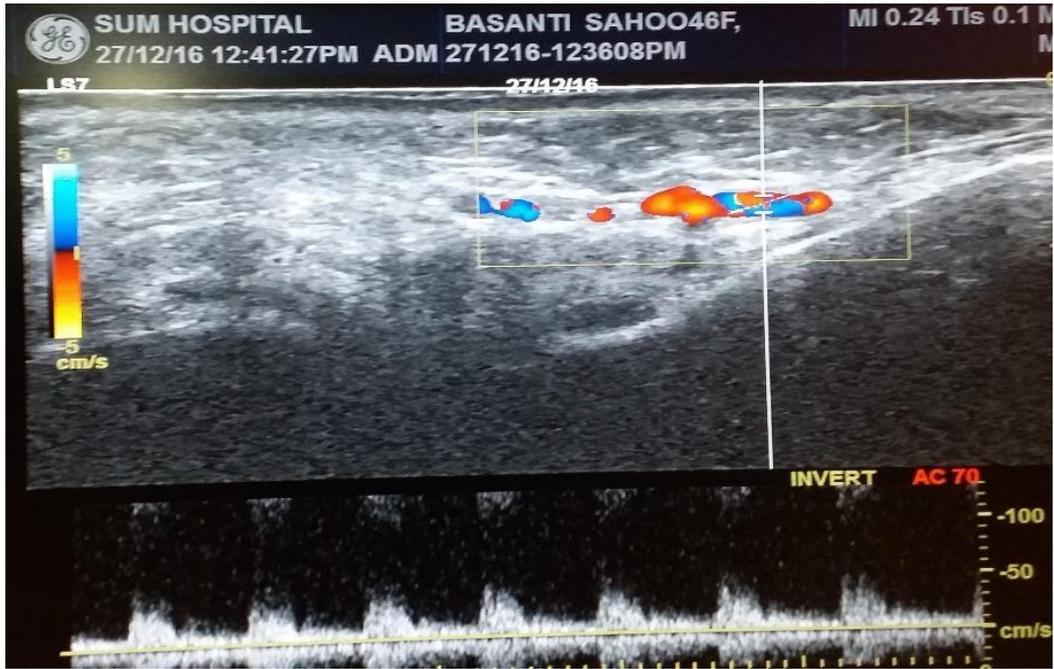


Figure- 6

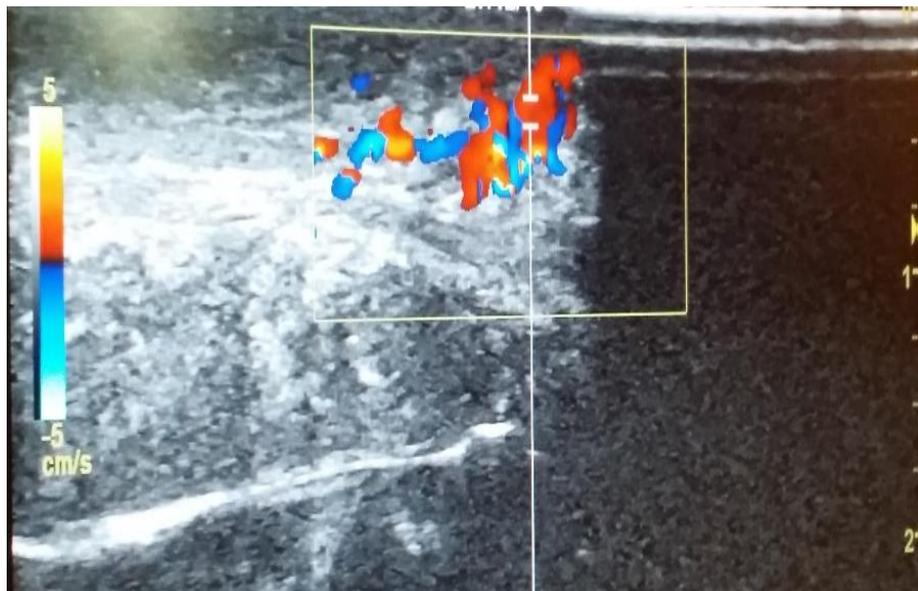


Figure- 7

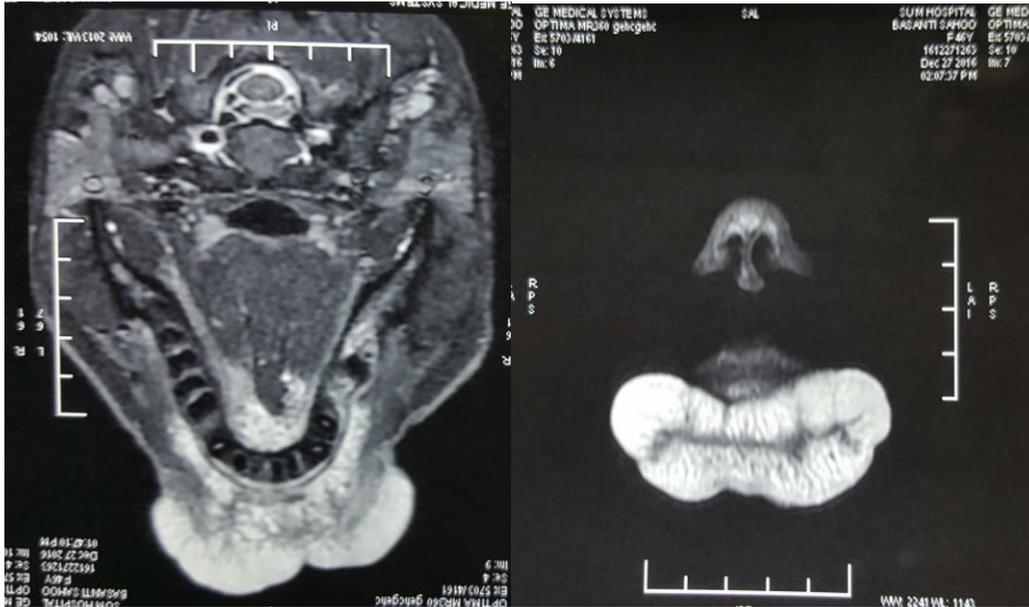


Figure-8 (T1 post contrast MRI of face) Figure- 9 (T1 post contrast MRI of lip)

Hemangiomas	Vascular Abnormality
A hemangioma possibly will or may not be existing at natal period.	Vascular abnormalities are continuously existing at natal period.
They are accurate new neoplasms of endothelial cell .	Remain restricted faults of vascular morphogens that consequences in construction of irregular torturous then enflamed vascular frequency.
They are very much new neoplasms of endothelial cells .	Remain restricted faults of vascular morphogens that results in establishment of irregular torturous and enlarged vascular canal .
Women are additional usually pretentious 3:1 (Mullikan and Glowacki) .	Vascular abnormalities show no gender partiality.
Hemangiomas are also recognized as anchorage wine stain, strawberry hemangiomas, salmon reinforcement.	Vascular deformities are likewise identified as lymphangiomas, arteriovenous deformity, vascular gigantism.
Ended time they developed sligher (involute) and brighter in shade.	They do not involute instinctively then may developed more ostensible as child grows.
Mast cells identified to performance part in neangiogenesis, rise through multiplying	No rise in mast cells.

phase.

Table- 1: Variance among hemangiomas and vascular abnormalities

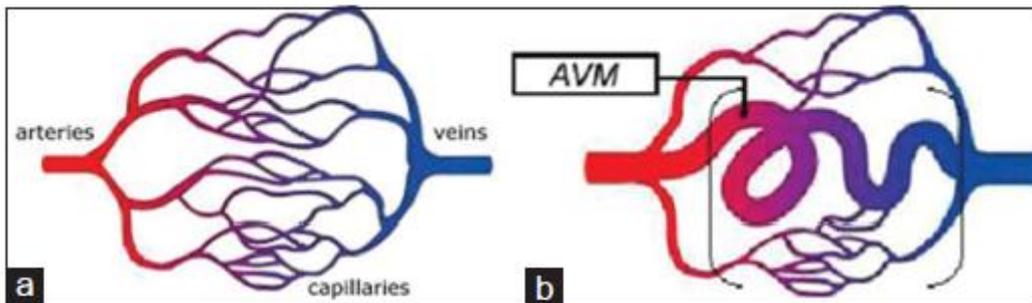
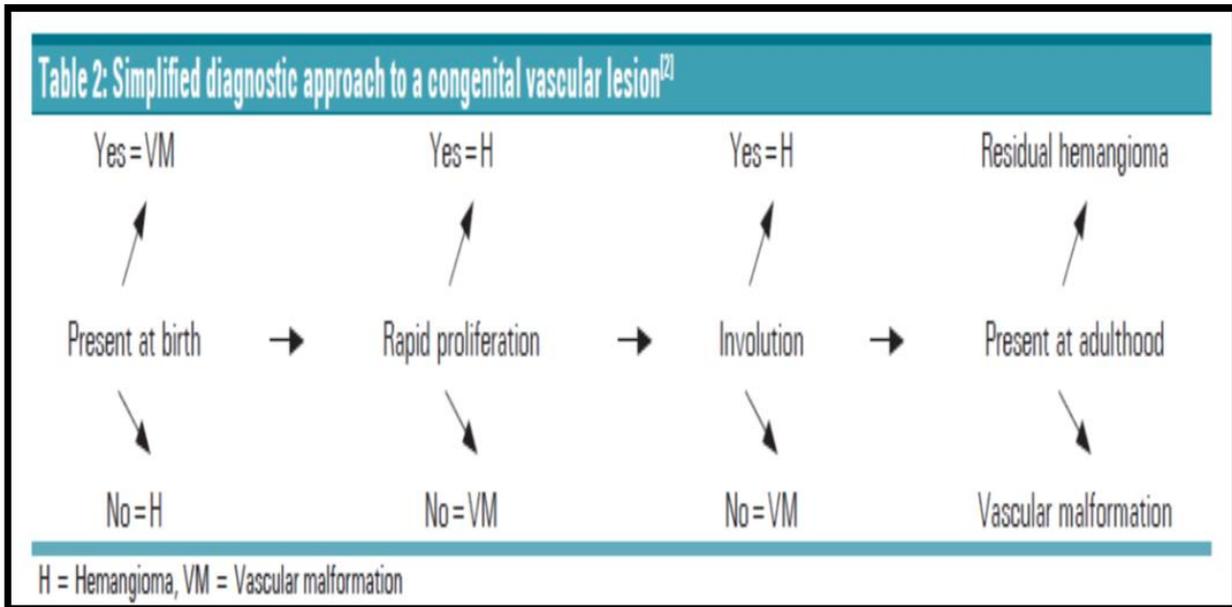


Figure 10- Image illustrating (a) normal connection between arteries and veins through capillary beds (b) while in arteriovenous malformation, straight communication between arteries and veins without capillary bed

Table 3: Syndromes Linked Vascular Tumors and Malformations

Tumors

Infantile hemangioma, PHACE disorder

Abnormalities

Low-stream

Sturge-Weber disorder, Klippel-Trenaunay disorder, Proteus disorder, Cutis marmorata telangiectatica congenita, Adams-Oliver condition, blue rubber bleb nevus disorder, Maffei disease, Gorham-stout disorder.

High-stream

Bonnet-Dechaume-Blanc disorder (Wyburn-Mason Disorder), Parkes Weber disease, Rendu-Osler-Weber disorder (heredity hemorrhagic telangiectasia), Cobb disorder, Cowden disease, Ehlers-Danlosdisease (Type 4)

Current cataloguing of hemangioma and vascular abnormalities

Hemangiomas

- Artificial (vessel hemangioma)
- Unlimited (resounding hemangioma)
- Complex multifarious (vessel and tubeechoinghemangioma)

Vascular abnormalities

- Modestlacerations , scratches
- Low-streamlacerations
- Vessel or tubedeformity (capillary hemangioma, port-wine stain)
- Arterial and vein abnormality (echoinghemagioma)
- Lymphatic distortion (lymphangioma, cystic hygroma)
- High-stream lesions
- Atriumabnormality

Collective lesions

- Arteriovenous abnormalities
- Lymph`
- Additionalgroupings

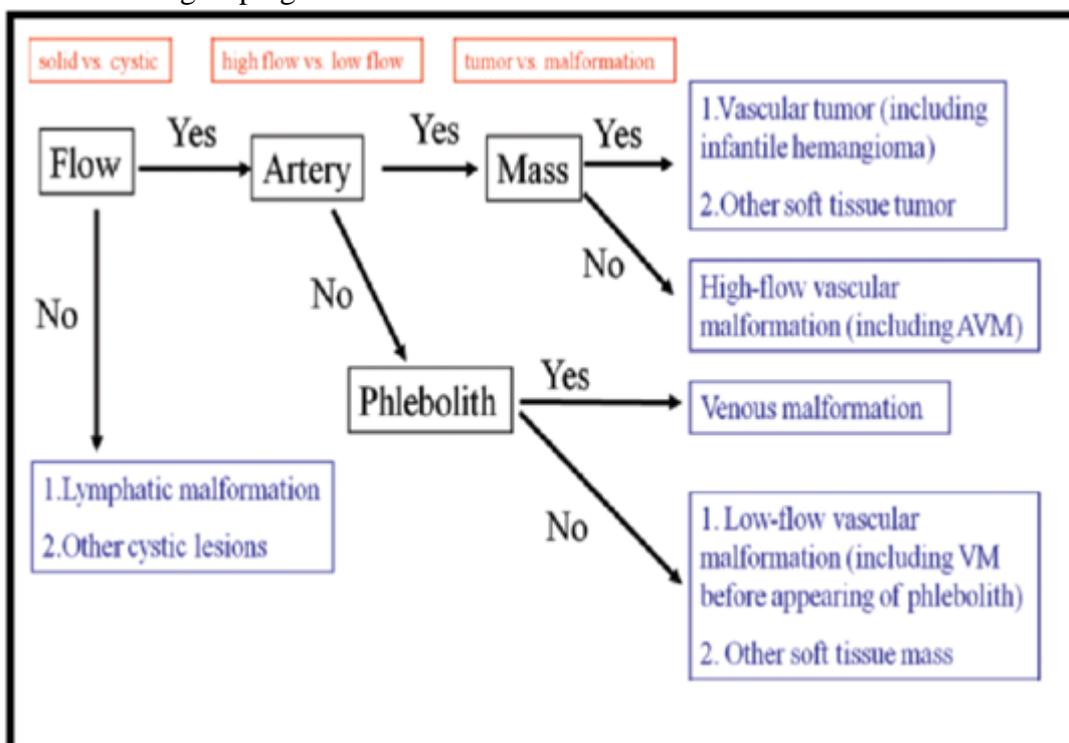


Figure- 11

2. DISCUSSION :

In 1983, Mulliken and Glowacki present a biological categorization based on clinical form, histopathologic features as well as biologic performance into two main category: tumours and malformations .[1]

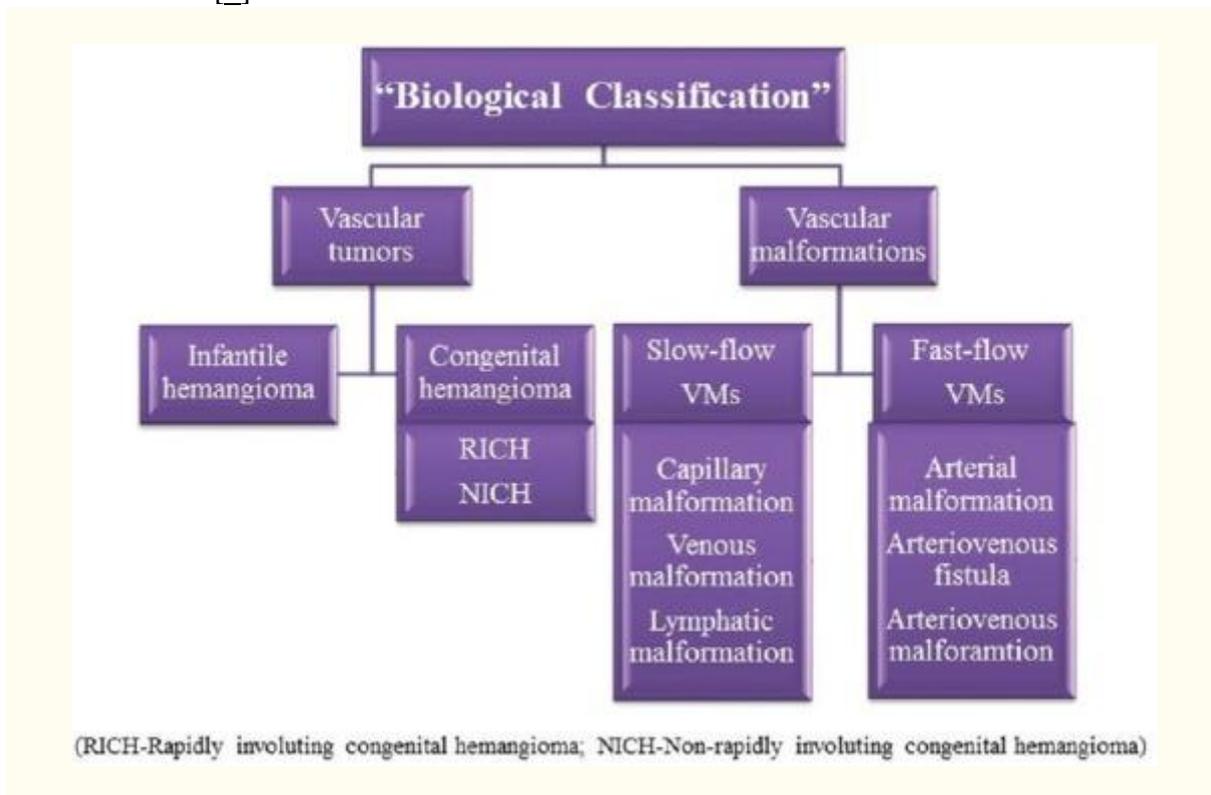


Figure -12

Vascular tumors affecting particularly the jaws and VMs are rare[2] Hemangiomas have been the most common tumors of vascular [1] and differentiated from VMs as a therapy .[9]Forbes et al. eminentdescribed VMs associated with slow and low flow and high or moderate flow lesions depend on hemodynamic and contrast appearance when examine by X-ray of blood or lymph.[1,2,3]There are two kinds of vascular anomalies, including vascular distortions and hemangiomas. Among every single vascular anomalies, AVMs are considered as most dangerouswhich include lips (12,13).Vascular contortions are inborn injuries. Most AVMs become perceptible until youth and noticeable because of hormones, contaminations, and injuries (13,14).The AVMs have explicit age scope of 3 months to74 years. Gained AVMs that present after injury as opposed to inborn AVMs regularly exhibit a solitary blood vessel enrolling, which causeeasier treatment (15). The AVMs comprise of a focal nidus with strange shunts among blood vessel and venous frameworks that bring about the expansion of adjoining conduits and veins. The AVMs have no proliferative cell action (16). Clinically, AVMs typically presents with warm firm compressible pulsatile easy moderate developing mass with bruits and trills (17,16,14). Ultrasound and Doppler ultrasound are utilized as radiologic assessments that can show vessels and expansions. Doppler ultrasound can give the estimation of blood stream speed and vessel obstruction. The CT filter is extremely helpful and as a rule shows delicate tissue mass with developed nearby conduits and veins (17). The CTA can assist with affirming nidus and security course. Attractive reverberation imaging is utilized to assess augmentation and intrusion to encompassing delicate tissue. Attractive reverberation angiography furnishes pre mobilization arranging with identifying the source of atypical branches (17). In any case, catheter angiography is the best quality

level radiologic test. Treatment of AVMs is questionable. Over the previous decade, various methodologies, including careful extraction, endovascular embolization, laser treatment, or a blend treatment have been utilized for the administration of Lip AVMs (18). The best achievement rates in AVM treatment have been accounted for with embolization followed by excisional medical procedure. The embolizing agents utilized are Onyx, Gel froth, loops, Glue, Embosphere, and polyvinyl liquor (19). A few methods as the proximal ligation of taking care of corridors to AVM or curettage and halfway resection, cause the repeat of sore (13). Combination treatment has the most noteworthy achievement rate and is viewed as a highest quality level treatment (20). Primary objective of the treatment ought to be to annihilate the nidus and proximal of venous surge. The decision is preoperative very specific blood vessel catheterization and embolization followed by medical procedure as quickly as time permits, in a perfect world inside 72 h (17,16). Benign vascular sores are variations from the norm of vein or endothelial cell multiplication was seen that considerable oral vascular injuries spoke to 6.4% of the considerable number of infections analyzed by Oral Judgement Provision [21] According to Mulliken and Glowacki in 1982, vascular inconsistencies dependent on obsessive highlights, i.e., endothelial cell revenue. vascular peculiarities arranged in to following classes - (a) Vasoproliferation neoplasm, and (b) Vascular abnormalities. Vascular contortion takes a smaller amount endothelial cell revenue (multiplies then experience mitosis) contrasted with vasoproliferation neoplasm. Rather VM are auxiliary variations from the norm of Venous, lymphatic, slender and arterioles which develop as indicated by the extent of the kid [22]. Broadening of vascular sores are because of changes in stream and weight, dilatation of vascular canal, insurance multiplication [23]. Dynamic endothelial cells are the significant component in all arrangement reliable with an advancing vascular sore, yet it is muddled whether the endothelial multiplication is an essential occasion or outcome after vascular development methods for hemodynamic instrument [24]. VM partitioned into (a) Slow-stream (b) High-stream contortions. Slow stream VMs are pervasiveness of 1% by and large completely public. Most basic sort insubtypes is Vein, Lymphoid and Venolymphoid distortions. Venous abnormality shaped because dilatation of shallow then profound veineous because of slim divider which needs smooth and flexible muscle. Lymphoid subtypes of abnormality remain caused because assortment of lymphoid nodes loaded up through serous liquid. Venolymphatic deformities remain uncommon [22]. High level of stream VM is both anterivenous contortion also anterivenous fistula. Described via development bunch of blood vessel and Vein canals lacking arrangement of strong mass. The medical introductions show amazingly significant assortment and can run after an asymptomatic pigmentation to life threatening haemorrhage. The sores generally happen in both head via neck area through a preference for the lips, jaw, lung and muscle strength gatherings. General occurrence of VM is around 1 out of 10000 individuals, Developing all through the life of patients. There are many cases when a patients with vascular related abnormalities diagnose incorrectly. [23].

Congenital arteriovenous malformation:

This occurs due to absence of separable arteries with veins and capillaries through vascular expansion. [1,2,5] Most are present at birth but come to clinical attention during second or third decade of life. [9] Defects in transforming growth factor- β signaling and a genetic two-hit hypothesis are the prevailing theories to the pathogenesis. [1,10]

Familial arteriovenous malformation:

Although rare, [4,5,9] normally cases are sporadic and few are hereditary problems whose molecular genetics has been recently elucidate. A transformation in gene RASA1, express p120-Ras GAP, on chromosome 5q, has been recognized in families with congenital malformations associated with AVMs. [11]

Acquired arteriovenous malformation:

Trauma, ischemic event inferior to thrombosis and hormonal changes (puberty and pregnancy[5]) could induce aberrant propagation of the arteries-veins and trigger the manifestation of its troublesome symptoms.[1] When less important to trauma, that lesion is more often than not provided by a particular vessel, as associated to the multiple vessels frequently perceived by means of congenital etiology.[2]

3. CONCLUSION:

Acquired AVMs may be present as a dental emergency due to uncontrolled bleeding when operate dental measures like as tooth removal, biopsy or the moment of the natural exfoliation of a primary tooth. They may result in alarming hemodynamic manifestations such as venous engorgement. The surgical supervision is intricate and requires involved planning and multidisciplinary view. Vascular contortions has much time influence the upper and lower lip and furthermore the buccal mucosa and does not have any sexual orientation inclination. Vascular abnormalities are uniformed death occurs in not only two youngsters but also grown-ups. Not many conditions, for example, blue elastic bleb nevus disorder, cutaneous-mucosal intravenous distortion (VMCM), glomu-venous abnormality (GVM) related through vascular injuries. These sores can be a dental crisis when dental strategies are performed, for example, extraction, biopsy or careful extraction can drain wildly and furthermore can show as hemodynamic issue, for example, venous engorgement, distal ischemia and high-output cardiovascular disappointment. Thusly, sufficient treatment of such cases is must necessary. By advance method that MRI, CT AND DOPPLER US and treatment like sclerotherapy, foundational corticosteroids, interferon α , laser, embolization, cryotherapy, and medical procedure have made the administration of vascular distortions simpler however it generally has been a test for a clinician to choose equivalent to it relies upon patients age lesion site and size.

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