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Oral Pathology

**Central Hemangioma**

Central Hemangiomas. What exactly does this mean? In order to unclaw at the puzzle, it’s important to take pieces of what Latin and Greek has left behind. Central usually refers to the “middle”, which if looked upon at the body, somehow ends up being bone. The logic behind this is because bones are usually coming *from* or *close* to the axis of the body; hence central.   
“Heman-”: blood vessel. “-gioma”: Benign tumor of… So simply put, we are looking at benign tumors that occur in the blood vessels of bone. Or not simply put, we can go with the definition “*Haemangioma* is a distinct biologic tumour entity characterised by rapid endothelial proliferation shortly after birth.” ₁

So the next logical thought process should be, what is the cause of abnormal blood tumors in bone? The reason behind it is extraordinarily simple. Simply it’s the fact that in bone there is a creation of blood, and thus there is a high chance that too much blood vessels could be produced leading to a tumor. As easy as this sounds, many researchers cannot come to an accurate conclusion of the etiology of this tumor. After much research however, there are 2 basic theories as to what the etiology is; the intrinsic and extrinsic theories. The intrinsic theory declares that the origin is from vasculogenesis (the process of how new blood vessels are formed). The extrinsic theory says that certain environmental factors such as hypoxia, local growth factors, cytokines and estrogens are the cause. The common thread they share is that this is determined in the embryo stage. ₂

Clinically the initial hemangioma would be either an erythematous macular patch, a blanched spot, or a localized telangiectasia, surrounded by a pale halo.₃

To be better organized however, many have made categories of hemangiomas to be able to clinically classify these tumors. Basically they are broken down into depth and location. The following classification credits Mulliken who categorized them into “capillary”, “cavernous”, and “capillary-vavernous”.

The first are superficial, from the papillary dermis and often called “strawberry” haemangiomas. The second are located in the reticular dermis and appear bluish or colorless. The last, originate from the papillary and reticular dermis.

They can also be clinically classified into the depth of soft tissue involvement. This includes superficial, deep and mixed.

Hemangiomas is the most common tumor in infants with a incidence of 1-3% affecting 10% of infants by the age of 1. About 4-12% of white children are affected. The incidence is not as commonly seen in Asian and African descent infants. Up to 30% of preterm infants with low birth weights can present with hemangiomas. There is also a higher ratio of females presenting 2-5:1. ₄

Microscopically, hemangiomas are” unencapsulated aggregates of closely packed, thin-walled capillaries, usually with endothelial lining. Blood-filled vessels are separated by scant connective tissue. Their lumens may be thrombosed and organized. Hemosiderin pigment due to vessel rupture sometimes can be noticed.”₅

On an x-ray, they can be seen as RL areas which the tumors of the blood vessels and destroyed and broken through bone and may also have calcifications.

Treatment of hemangiomas include observation, compression, corticosteroids (intralesional and topical), sclerotherapy, interferon , laser therapy, vincristine, becaplermin gel, and blockers. Surgical treatmentsinclude intratumoral ligation, tobacco-pouch suture technique and excision. ₆

Hemangiomas go through three stages of development and decay. In the proliferation stage, a hemangioma grows very quickly, lasting up to twelve months. In the rest stage, there is very little change in a hemangioma's appearance. This usually lasts until the infant is one to two years old. In the involution phase, a hemangioma finally begins to diminish in size. 50% of lesions will have disappeared by 5 years of age, and the vast majority will have gone by 10.

Hemangiomas more often than desired, have been confused with other vascular malformations. Therefore histochemical stains for prescence of an artery are used frequently to distinguish the two.   
One study reveals that another diagnostic clue that can be used are the presence of nerve bundles since they are consistently present in vascular malformations and absent in hemangiomas. ₇

So why are hemangiomas important to a dental environment? Simply put, it’s because someday, one day, someone might just come into our office presenting with one. Since they are also the most common vascular anomaly and the most common tumor in childhood and infancy, we need to be aware of how we handle and treat our patients, including infants to prevent any more tell-tale stories.

The growth of hemangiomas is unpredictable. That means we need to closely guard any signs of growth onto our oral head and neck exams to see if the lesion has self-limited or has aggressed. Stress can be one cause of why the lesion might have been aggravated.

The most important factor however is bleeding. Bleeding occurs because the skin surrounding the hemangioma is thinner and frailer than normal. If the skin is dried out, scratched and or cracked, the area may bleed or created ulcers (which is equally painful). This should also be considered when doing an extractions. Many options and procedures that seem very commonly performed will no longer be a choice with patients presenting hemangiomas. ₈

Therefore, as members of the dental field, more specifically as hygienists, we need to be more aware of things that we notice, see, observe on x-rays, patient’s faces, intra-orally, and how we plan to proceed with our treatment. Being ones who communicate and see our patients more than any else in the dental office, we want to understand what is going on with them and how to help them out. In cases of those with hemangiomas, they may not be aware that they even have it, and so our roles in their lives become bigger. Whatever the case, it is now part of our job to make sure the interest of the patient comes first. The game will be better played as a performer if we realized what cards we hold in our hands.

1. Head and neck vascular anomalies in children

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