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Evening Section

 AV Malformation

 Arteriovenous (AV) Malformation is a rare condition where blood vessels are inappropriately connected. “In these malformations, arteries and veins are unusually tangled and form direct connections, bypassing normal tissues.” (1) This condition can arise from any part of the body, and can happen during development before birth or through trauma. Although this malformation is occasionally associated with RASA1 mutation, the exact etiology of this vascular anomaly is still unknown. AV malformations are most often asymptomatic, nearly 12 percent of people with this condition exhibit symptoms. (2)

 AV malformations grow in conjunction to the patient’s body proportions. For example, as a child grows into an adult, the AVM grows as well too. AVMs are often organized using a scale called the Schröbinger staging system. “ Stage I (quiescence): The AVM is “quiet”. The skin on top of the AVM may be warm and pink or red. Stage II (expansion): The AVM gets larger. A pulse can be felt or heard in the AVM. Stage III (destruction): The AVM causes pain, bleeding or ulcers. Stage IV (Decompensation): Heart failure occurs.”(2) Not all AV malformations follow the Schröbinger staging system, however depending on where the malformation is located the biggest concern related to this abnormality can be uncontrolled hemorrhaging. “Fewer than 4 percent of AVMs hemorrhage, but those that do can have severe, even fatal, effects. Death as a direct result of an AVM happens in about 1 percent of people with AVMs.” (2)

 Clinical symptoms which patients experience can be buzzing or rushing sound in the ears, headache, backache, seizures, loss of sensation in part of the body, muscle weakness, changes in vision, facial paralysis, problems speaking, problems with motion, dizziness, loss of consciousness, bleeding, pain, or cold/ blue fingers or toes.

 To properly diagnose AV malformations, doctors may need to do an angiogram, MRI, or a CT scan on a patient. “An image of an AVM will show many winding, bending arteries and also wide veins. The blood will be seen to flow very quickly from the arteries to the veins.” (2) Usually biopsy for AVMs are not needed as clinical examinations and imagine studies are enough to diagnosis the condition. Biopsy of AVMs can be dangerous due to the risk of hemorrhaging. AVM does not pertain to any one particular race or sex, and symptoms can arise in anywhere between the ages of 10-40. (3)

 AVMs are considered to be benign, with well demarcated borders. The decision to treat an AVM is dependent of the patients age, AVM’s size, location and stage. If the AVM is not disrupting the patient’s life via pain or loss of function, doctors may recommend regular follow-up visits. However if AVMs persists to become a problem, the most common ways to manage AVMs are through Embolization and Sclerotherapy treatment. Although these treatments are not a complete cure for the condition, they can reduce the size and symptoms of an AVM. (2) Over time, the AVM will likely to re-expand, so patients may end up undergoing several treatments throughout their life.

 AVMs can be sometimes mistaken for infantile hemangioma which only grow during infancy whereas AVMs continue to grow throughout the patient’s life. AVMs can also be mistaken for capillary malformations or “port wine stains”, the difference between these two being that AVMs have fast high flowing blood in larger blood vessels underneath the skin, whereas the blood vessels in CMs are small and are located in the superficial layers of the skin. (2)

 AV malformations is relevant to me as a Dental Hygienist because patients with AVMs of the maxillofacial region can give rise to dental emergencies. “Unawareness of presence AVM in dental field can cause exsanguination results due to dental extractions, minor surgery, incision or other dental treatments.” One of the most common signs of these patients is excessive mobility of the teeth with spontaneous hemorrhage from the surrounding gingival crevicular sulcus. (3)

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