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 **Trigeminal Neuralgia and Bell’s Palsy**

 Trigeminal neuralgia is a chronic painful condition that affects the Trigeminal nerve which is known as the 5th cranial nerve. Touch or movement to a trigger zone results in a severe stabbing like feeling. Trigger zones are most common in the nasiolabial area, upper/lower lip, chin, cheek, and alveolar gingiva. (McKinney, et al., 2021). TN typically occurs spontaneously but it can sometimes be associated with trauma to the face or dental procedures. Dental manifestations of trigeminal neuralgia include a burning feeling that could sometimes be unbearable while eating, drinking, chewing, and brushing the teeth. This condition is caused by vascular compression which is when a blood vessel presses against the trigeminal nerve. Over time, the protective myelin sheath will deteriorate since constant compression is being applied to the artery. Just like the origin of trigeminal neuralgia is unclear, the same goes for Bell’s Palsy. Although the origin is unclear, there are still theories. Experts believe that the nerve is being compressed “as it passes through the fallopian canal, from the internal acoustic meatus to the stylomastoid foramen of the temporal bone in the skull.” (Kandray, 2014). This condition is characterized by acute facial paralysis and patients experience weakness on one side of the face, causing the muscles to droop. When the 7th cranial nerve (the facial nerve) is damaged, Bell’s Palsy occurs. Some people may experience a loss of taste on the anterior portion of the tongue, and difficulty in making facial expressions. Dental manifestations of Bell’s Palsy include an increase or decrease in the production of saliva. Due to the lack of saliva production, xerostomia can develop which can cause caries to develop. Since there’s barely any saliva, it’s difficult for the food to be broken down by the enzymes within the saliva, causing the food to remain stuck on the teeth.

 Women are at a higher risk for trigeminal neuralgia than men are. This disorder usually occurs between ages 50-70 affecting 12 people per 100,000 each year. (McKinney, et al., 2021). TN causes this electric shock of pain that scatters down the path of the trigeminal nerve around the lower jaw and cheek. Women are also at a greater risk than men are for Bell’s Palsy, especially pregnant women in the third trimester, and women who have recently gave birth. People recovering from upper respiratory infections are also at risk for developing Bell’s Palsy. Bell’s Palsy can occur at any age and between 30,000 to 40,000 people are impacted by this condition. (Kandray, 2014).

There are no specific ways to diagnose trigeminal neuralgia in the dental setting but the dental hygienist is able to assist in diagnosing this condition by performing a intraoral and extraoral examination. By doing so, the hygienist will be able to detect trigger zones and areas of sensory loss. If the dental hygienist rules out trigeminal neuralgia, a referral should be made out to a neurologist to go forward with treatment. It’s also important to take a detailed medical history and physical examination to obtain objective and subjective findings. Additionally, a radiograph of the TMJ and the teeth can aid in getting rid of other causes of pain. (McKinney, et al., 2021). Going forward, the dental hygienist can also assist in diagnosing Bell’s Palsy by obtaining a complete medical history. With this condition, laboratory tests are essential in diagnosing Bell’s Palsy. An absent laboratory test requires a differential diagnosis which is a electromyography. An EMG can verify the presence of nerve damage and how severe it is. Extra imaging scans may be required when ruling out other probable causes of pressure on the facial nerve. (Kandray, 2014).

There are some similarities and differences with oral hygiene instructions for Trigeminal neuralgia and Bell’s Palsy. The importance of brushing and flossing is stressed to patients with these conditions. Since trigeminal neuralgia causes a great amount of pain during facial movements, patients experience difficulty brushing and flossing which results in plaque and calculus buildup. For patients with Bell’s Palsy, it’s important to inform them that daily fluoride is essential since there is a lack of saliva production. By explaining the affects of less saliva production (xerostomia), the patient will be encouraged to follow instructions. If flossing is an issue, interdental brushes and and flossing aids should be recommended. (Kandray, 2014).

Trigeminal neuralgia causes more severe pain than Bell’s Palsy so a softer toothbrush is suggested. A good dental professional is one that is understanding and sympathetic for patients with conditions like these. Dental hygienists must emphasize the importance of oral health to patients with these conditions so they don’t have to deal with other complications on top of what they already have. The dental hygienist has their best interest in a patients oral hygiene and will be more than happy to show methods of brushing and flossing that will work best for their situation. Exploring our knowledge and understanding the different conditions can really help a patient by providing them with treatment plans.

Angular cheilitis is a condition that affects the corners of the mouth, the labial commisures. It is a common inflammatory skin condition that causes painful cracked sores. Symptoms of this condition include, bleeding, blisters, cracking, crusting, redness, and swelling. Angular cheilitis is sometimes confused with cold sores. Cold sores are contagious and angular cheilitis is not contagious but it is definitely painful. Fungal infections caused by a type of yeast called candida, is the most common cause of angular cheilitis. Saliva tends to get stuck and then builds up in the labial commisures, Once the saliva gets dried up, the skin in the area can crack. People tend to moisturize their lips by constantly licking them. The moisture and warmth create the ideal environment for fungus to grow, multiply, and cause an infection. To treat fungal infections, topical anti fungal creams such as, “nystatin (mycostatin), ketoconazole (extina), clotrimazole (lotrimin), and miconazole (lotrimin AF, micatin, monistat derm)” are prescribed. (Ellis, 2020). If the infection happens to be bacterial, the doctor will prescribe antibacterial medication such as, mupirocin (bactroban), and fusidic acid (Fucidin, fucithalmic)”. If angular cheilitis is not fungal or bacterial, it is recommended to use Vaseline on the inflamed areas. Dental professionals should be cautious while performing dental procedures with patients who have this condition. Dental procedures could be painful since the patient has open so it is important that the clinician doesn’t put pressure and stress on the mouth.

References

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