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Drug related gingival hyperplasia

Gingival hyperplasia is an abnormal overgrowth and enlargement of the gingival tissues in which the gingival tissue expands and grows in all dimensions: buccal, lingual, mesial, and distal. The severity of this condition is different for each individual, but it is uncomfortable and esthetically displeasing. The exact and direct cause of gingival hyperplasia is still unknown, but studies have shown it to be a result of multiple factors. Some risk factors that contribute to gingival hyperplasia include age, gingivitis from poor plaque control, orthodontic treatment, systemic diseases/illnesses, hematologic disorders, genetic predisposition, and lastly, medications.

Drug related gingival hyperplasia, as its name suggests is abnormal overgrowth of the gingiva that occurs when specific drugs are taken. The drugs that are most commonly associated with gingival hyperplasia are anticonvulsants, calcium channel blockers and immunosuppressants. These drugs act on secondary target tissues such as the gingival connective tissue and inhibit calcium ion from moving intracellularly, causing reproducible clinical and histopahotlogical findings. Of course, the combination of poor plaque control and the use of the drugs listed above seemed to magnify gingival tissue response.

Gingival overgrowth often starts painlessly at the interdental papilla and extends to the lingual and facial gingival margin tissues. Over time, the combination of the papillary and marginal tissue enlargement manifest as large tissue folds that appear to migrate coronally. Depending on individual ability to keep gingival tissue clean, the lobular gingiva can range from firm, pale pink and resilient to inflamed, erythematous and fibrotic. The enlargement is more severe in the anterior regions of both the maxilla and the mandible and it only occurs in areas with teeth. The overgrowth is often associated with the attached gingiva but may extend coronally and look esthetically displeasing as well as interfere with speech and mastication.

Patients of any age, sex or race can develop gingival hyperplasia, but it is more likely in the elderly of the female sex since age is related to higher number of medications and gingival hyperplasia can be hormonally induced.

Biopsy and lab tests reveal that the size of the gingival tissue is related to connective tissue response and not epithelial cell layer involvement. The lesions are formed from storage of extracellular matrix proteins like collagen or amorphous ground substance. There is also an increased number of plasma cells infiltrate. “Irregularly organized collagen fibers are created from the different sized parakeratinized epithelium covering the connective tissue stroma with epithelial ridges penetrating far into the connective tissue.”

Treatment of drug induced gingival hyperplasia could be nonsurgical, surgical or even combined. Nonsurgical measures focus on decreasing gingival inflammation to avoid surgery. It includes drug substitution or drug withdrawal and frequent deplaqing, professional scaling and root planning as often as the patient needs. Nonsteroidal anti-inflammatory drugs can also be used to treat or prevent drug related gingival hyperplasia. Gingival tissue can take weeks to resolve but some patients with enlarged gingiva for some time will not see any results and will require surgical treatment to remove the excess gingiva. Surgeries include scalpel gingivectomy, periodontal flap surgery, electrosurgery, and laser excision. The decision is made on a case by case basis in regards to the patient's overall health and the patient periodontal health. Chlorhexidine gluconate and a well-fitting night guard are used for maintenance of the gingival tissue post operation.

Prognosis with treatment is good and without treatment is not well because the gingival tissue will not shrink back to its original size if left untreated. The enlarge gingiva harbors biofilm more readily and will lead to chronic gingivitis if left untreated.

The differential diagnosis for drug induced gingival hyperplasia is inflammatory enlargement (acute and chronic), hereditary gingival enlargement, conditioned enlargement, systemic disease induced gingival enlargement, gingival tumors, and false enlargement. Because there are numerous differential diagnosis for drug induced gingival hyperplasia, a complete medical history along with routine periocharting and record of gingival description is essential for the dental team to come up with the right diagnosis and treatment plan.

This condition is relevant to me as a dental hygienist because a lot of patients, especially elderly patients take multiple drugs that have been proven to be indicative of gingival hyperplasia. These patients might also have limited dexterity and considering that age is a risk factor for drug related gingival hyperplasia it is very important for us to recognize the condition and provide the proper information and care to the suffering patients. Even if the patients suffering from this condition is not limited in dexterity, the gingiva will most likely be uncomfortable to work with, so oral hygiene is bound to get worse. This condition will also require us to adapt our instruments to prevent trauma to the gingival tissue. With the knowledge that drug can cause gingival hyperplasia, we can prevent the condition from getting to its worst state by warning the patient that the drug that they are taking has an effect on their gingiva, reinforcing the importance of homecare and monitoring gingival changes upon every dental hygiene service.

References

Bharti V, Bansal C. Drug-induced gingival overgrowth: The nemesis of gingiva unravelled. J Indian Soc Periodontol 2013;17:182-7

 Muralikrishna T, Kalakonda B, Gunupati S, Koppolu P. Laser-Assisted Periodontal Management of Drug-Induced Gingival Overgrowth under General Anesthesia: A Viable Option. Case Reports in Dentistry 2013; 387453:4

 Thompson A, Herman W, Konzelman J, Collins M. Treating patients with drug-induced gingival overgrowth. Journal of Dental Hygiene 2004 ;78:4