Amlodipine induced gingival overgrowth- A case report

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Abstract
Patients on anticonvulsants, calcium channel blockers and immuno-suppressants therapy often experience gingival overgrowth. Oral functions like mastication, speech, tooth eruption and aesthetics is hampered by gingival overgrowth. It impacts routine oral hygiene procedures which leads to increased plaque retention and resultant inflammatory overgrowth. Similar clinical and microscopic features of overgrowth are seen with the use of different drugs. Gingival overgrowth is treated by thorough oral prophylaxis i.e. scaling and polishing, drug substitution is done only if new drug has fewer adverse effects and if overgrowth persists surgical removal of excess soft tissue is advised. This article is a case report of commonly used calcium channel blocker Amlodipine which induces gingival overgrowth in few cases. It is treated by a combination of a rigorous oral hygiene regime, and in cases where aesthetics, function or speech are compromised surgery is advised.

Keywords: Gingival overgrowth, Drug, Management, Hyperplasia.

Introduction
There are three commonly used drug types that cause gingival overgrowth: phenytoin sodium or epinutin – an anticonvulsant which is used for the treating epilepsy; cyclosporine – is an immunosuppressant used in order to avoid host rejection of grafted tissues and as a treatment for conditions such as severe psoriasis; and calcium channel blocking agents- which are used for treating cardiovascular conditions namely hypertension, angina pectoris and cardiac arrhythmias e.g.- nifedipine.[1] Although drugs have a similar chemical structure the severity and prevalence of overgrowth varies. Nifedipine and amlodipine are both dihydropyridines and yet the prevalence of Amlodipine induced gingival overgrowth is half of that of nifedipine (3.3% compared with 6.3%). [2] Gingival overgrowth induced by Nifedipine is seen in 10% patients. Gingival overgrowth is treated by thorough oral prophylaxis that is scaling and polishing, drug substitution is considered only if the new drug has added advantage for controlling hypertension and less adverse effects. Surgical procedures like scalpel or laser gingivectomy is considered if overgrowth persists.[3, 4, 5]

Case Presentation
A 34 year old female reported to the clinic with the chief complaint of maligned teeth. She gave a history of hypertension since five years and was on amlodipine 5mg daily since then. Intraoral examination revealed massive gingival overgrowth in relation to (i.r.t) 14, 15, 16, 25, 31, 32, 33, 41, 42, 43, lobulated interdental papilla seen in 12, 13, 23, 24 and overgrowth was seen in 11, 21. Bleeding on probing was seen in 33 to 43. On the first visit thorough scaling and root planning was performed and a written consent was given to the physician to change the medication. On subsequent visit the patient was on Enalpril which is an ACE inhibitor and does not have an adverse effect on gingiva. The growth started as a painless enlargement of the interdental papilla which gradually extended to the facial and lingual gingival margins (Figure 1). There was reduction in the overgrowth and inflammation after 4 months. Since some overgrowth was still present it was decided to surgically excise the overgrown tissue. A periodontal flap was raised for gingivectomy in region from 33 to 43. Later thorough debridement was done to remove infected tissue. Silk sutures were given and periodontal pack (Coe Pack) was placed (Figure 2). One week post-operative showed marked reduction in the overgrowth (Figure 3). The patient was given instructions and advised to maintain oral hygiene meticulously.

Fig. 1: Pre-operative Photos

Fig. 2: Surgical photos

Discussion

Calcium channel blockers are considered potential etiologic agents of drug-induced gingival hyperplasia. Calcium channel blockers inhibit calcium ion influx across cell membrane of heart and smooth muscle cells, blocking intercellular mobilization of calcium. Some of these drugs induce drug enlargement. Calcium channel blockers are considered potential etiologic agents of drug-induced gingival hyperplasia. Although the incidence of nifedipine-induced gingival hyperplasia is about 10%, very few reports of amlodipine-related gingival hyperplasia does exist in the extant literature[8]. However the presence of this enlargement becomes makes plaque control difficult, often resulting in a secondary inflammatory process that complicates gingival overgrowth caused by drug. The resultant enlargement then becomes a combination of the increase in size caused by the drug and the complicating inflammation caused by bacteria.

Fig. 3: Post-Surgical Photos

Conclusion

Patients on phenytoin, cyclosporine or calcium channel blockers must be informed about the suspected side effect of gingival overgrowth by the physician. They must be counselled by the dentist to maintain optimum oral hygiene to prevent the overgrowth. If the overgrowth occurs then the dental surgeon should meticulously plan the case starting from consent from the physician, changing the medication and later periodontal therapy- non surgical or surgical as indicated. Supportive periodontal therapy, continuous monitoring of the periodontal status and periodic professional care is of utmost importance to prevent recurrence.

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