Minimally invasive treatment for drug induced gingival enlargement-case report

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ABSTRACT

Introduction: Antihypertensive drugs in the calcium channel blocker group are extensively used in elderly patients. Gingival enlargement associated with Nifedipine was first reported in 1980’s and is very rarely reported to be associated with Amlodipine and Felodipine. The mechanism through which these medications trigger a connective tissue response are still poorly understood. Gingival enlargements may adversely affect speech, mastication, tooth eruption, and esthetics. These enlargements can occur as a result of the administration of certain anticonvulsants, immune suppressants, and calcium channel blockers.

Materials and methods: This case report with management of drug induced gingival enlargement has been treated by non-surgical periodontal therapy in step-wise manner; but on repeated visit have shown moderate resolution of the condition without withdrawal of drug.

KEY WORDS: Gingival enlargement, antihypertensive drugs, gingival hyperplasia, gingival hypertrophy.

1. INTRODUCTION

Gingival enlargement is describe as medication related gingival overgrowth. Previously it was as termed “gingival hyperplasia” or “gingival hypertrophy. Gingival enlargement treatment is challenge for both patients and clinicians2. In most cases it produces aesthetic changes and symptoms like pain, occlusion problems. Gingival enlargement is focused by local factors, and it also caused by certain medication and genetic influence.

Case history: A 55-year old male was reported to the Department of Periodontology, with chief complaints of pain and swelling on his gums for several months and also bleeding from gingival while brushing his teeth. Medical history exhibited that patients is hypertensive, and under medication for the past 3 years (amlodipine) (10 mg twice daily). Patient was not suffering from any other medical history

On Intraoral examination: Gingival enlargement which increased severely in maxillary anterior region. Oral hygiene maintenance was poor. The enlarged gingiva was Erythematous, soft and edematous, and showed a lobulated surface with absence of stippling. The interdental papilla showed bead like enlargement of maxillary anterior teeth which is slowly progress in the facial aspect and increased in size spread posteriorly. There was generalized bleeding on probing. Presence of calculus was also noted heavy. Probing depth revealed moderately deep pocket in maxillary anteriors and posteriors. The case was diagnosed as generalized chronic periodontitis with gingival enlargement (Combined enlargement – Inflammatory and Amlodipine induced.) request was sent to physician for opinion and consent was taken for the planed periodontal treatment. Phase I therapy was initiated. Scaling, root planing was performed under Local Anesthesia

Oral hygiene instructions given and prescribed 0.2% chlorhexidine mouthwash twice daily and Patient was recalled after 15 days. At the follow up visit after nonsurgical periodontal therapy, patient had relief from painful gums. Intraoral examination revealed slight improvement in the condition of gingiva. The Intensity of erythema and bleeding on probing had subsided marginally. The degree of enlargement was slightly reduced. Gingival curettage was repeated. Patient was recalled after 1 month for review. Patient reviewed after 1 month on examination the enlargement was subsided and patient was kept under observation for periodic recall visits (once in a month).

Discussion: Enlargement is mainly due to fibroblast proliferation in gingival tissue is the Classification according Carranza

Degree of overgrowth:
Grade-0: No signs of gingival enlargement
Grade-1: Enlargement confined to interdental papilla
Grade-2: Enlargement involves papillae and marginal gingiva
Grade-3: Enlargement covering three quarters or more of the crown3

Drug induced gingival enlargement has been recognized in 1939, a few months later the phentoin as an anti-epileptic drug was induced. There is number of study of drug induced gingival enlargement have been appeared in the literature, but the exact mechanism was still not clear.
Enlargement produces speech, mastication and aesthetic problems\textsuperscript{4}. Gingival enlargement is term accepted as a current terminology for this condition. Gingival hyperplasia or hypertrophic gingivitis or are no longer used\textsuperscript{5}. The most commonly involved group of drugs causing drug induced gingival enlargement are calcium channel blockers, anticonvulsants, immune suppressants and. Calcium channel blockers are a group of drugs specifically used in the management of cardiovascular conditions, including hypertension, angina pectoris, and cardiac arrhythmia. Calcium channel blockers classified on the basis of their chemical composition as benzothiazepine derivatives (diltiazem), phenylalkylamine derivatives (verapamil) or substituted dihydropyridines (amlodipine, felodipine, isradipine, nicardipine, nifedipine, nitrendipine, oxodipine, nimodipine and nisoldipine).

The action of calcium channel blockers is by inhibiting calcium ion influx across the cell membrane of cardiac and smooth muscle cells, thereby interfering or blocking mobilization of calcium intracellulary.\textsuperscript{5} 15–83\% of prevalence rates of gingival enlargement has been reported in of patients taking nifedipine whereas in amlodipine enlargement is very less. Patients under nifedipine appear increased risk for developing enlargement than those on amlodipine. Amlodipine is more common than the other dihydropyridones, with a pKa value of 8.7\textsuperscript{6}.

Untreated gingival enlargement condition may lead to bleeding, infection, abscess, ulceration, cosmetic deficiency, and functional difficulty (eg, chewing, talking).\textsuperscript{6} Drug-induced gingival enlargement treatment includes cessation of the drug and decreasing other risk factors (inflammatory components). Replacing the affecting drug with another agent is also recommended whenever possible. Gingivectomy can be advised for severe cases that affect oral hygiene or functionality, or can be performed for cosmetic reasons.

2. CONCLUSION

This case report is about drug induced gingival enlargement; basically a drug induced one, complicated by inflammatory changes due to plaque accumulation. Studies on the mechanism of drug induced enlargement are focusing on the direct and indirect effects of these drugs on gingival fibroblast metabolism is not clear. Treatment modality control of local inflammatory factors such as plaque and calculus and drug substitution in some cases. Resolution of the enlargement fails then surgical therapy is recommended. This case report with management of drug induced gingival enlargement has been treated by non-surgical periodontal therapy; but on repeated visit have shown moderate resolution of the
condition without withdrawal of drug. Further studies are needed with large scale of population to confirm the results.

REFERENCES
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