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RESEARCH ARTICLE

MANAGEMENT OF DRUG-INDUCED GINGIVAL OVERGROWTH ASSOCIATED WITH THE USE OF AMLODIPINE- A CASE REPORT.

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Abstract

Gingival overgrowth is well known side effect of calcium channel blocker, anti convulsant drugs and immunosuppressants which adversely affect speech, mastication, tooth eruption, and esthetics.

Although Nifedipine is a calcium channel blocker which is commonly reported to result in drug-induced gingival overgrowth. This report outlines a case of gingival overgrowth induced by Amlodipine (a calcium channel blocker less frequently reported to cause gingival hyperplasia), exacerbated by the presence of plaque. The case of drug induced gingival enlargement should be treated in a step-wise manner, including consultation with the patient's physician, substitution of the drug, nonsurgical therapy, surgical therapy (if needed), and supportive periodontal therapy after every 3 months. In this case non surgical therapy and drug substitution showed significant result and no recurrences occurred 3 months postoperatively.

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Introduction:-

Gingival enlargement is a well known consequence of the administration of certain anticonvulsants, immunosuppressants, and calcium channel blockers. The effects of these drugs are not only directed at the primary target tissues but also on secondary target tissues, such as gingival connective tissue, causing clinical and histopathological aberrations.¹ These aberrations can adversely affect speech, mastication, tooth eruption, and esthetics.² Several factors namely; age, genetic predisposition, presence of preexisting plaque, and gingival inflammation influence the relationship between the drugs and gingival tissue.³

Calcium channel blockers are regularly prescribed in the treatment of conditions such as hypertension and angina. They may be classified chemically as dihydropyridines (nifedipine, isradipine and amlodipine), phenylalkylamine derivatives (verapamil) and benzothiazepine derivatives (diltiazem).⁴

Amlodipine, a newer agent of dihydropyridine, used for treatment of hypertension and angina, was first reported for causing gingival overgrowth as a side effect by Seymour et al in 1994.⁵ Lafzi et al had reported rapid development of gingival hyperplasia in patients who received 10 mg per day of amlodipine within two months of onset.⁶

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Clinical manifestation of gingival enlargement frequently appears within one to three months after initiation of treatment with the associated medication.⁷ Here, we report a rare case of massive gingival hyperplasia in a hypertensive patient who is under amlodipine therapy since 2 year.

Case Report:-

A 70-year-old female patient reported to the outpatient department of Maharana Pratap college of dentistry and research center, Gwalior with a chief complaint of generalized swollen gums which bleed on slight provocation since 8 month, leading to an unesthetic smile (Fig. 1).

Her medical history of Hypertension since 5 years, controlled with medication (Amlodipine 10 mg) for the last 4 years. Patient was partially edentulous and only maxillary anterior teeth present. Gingival tissues were pale pink, enlarged, firm, and fibrotic with pronounced stippling. Generalized bleeding on probing was present.

Complete hemogram results were under normal limits. A diagnosis of generalized drug-induced gingival enlargement superimposed with periodontitis was made. With the consent of the patient and her physician, complete professional oral prophylaxis was performed, along with a prescription of a 0.2% chlorhexidine mouthwash (10 ml BID for 7 days).



Figure 1:- Prescaling facial view of the patient.

After 1 week, the gingival condition improved and the patient was asked to maintain oral hygiene with a soft, gentle toothbrush and warm saline gargles (Fig. 2).



Figure 2:- Postscaling and root planning showing healthy gingiva at 1 week.

With the patient's and physician's consent, amlodipine was substituted with losartan 40 mg. Patient was recalled for supportive periodontal therapy after 2 weeks, 1 month and 3 months. Since the enlargement had not shown any significant changes after professional debridement with scaling and root planning. The patient was not required to undergo any surgical intervention. (fig 3 and 4)



Figure 3:- After 2 weeks showing significant changes.



Figure 4:- After 1 month complete gingival health restored.

Discussion:-

Amlodipine is a second-generation dihydropyridine calcium channel blocker that can cause gingival hypertrophy. The prevalence of amlodipine-induced gingival hypertrophy has been shown to be between 1.7% and 3.3%. The incidence of gingival hypertrophy with nifedipine therapy has been reported to be as high as 20%, and a 2002 study reported that the prevalence with the use of calcium channel blockers might be as high as 38%.^{8,9}

Here, we report a case of amlodipine-induced gingival enlargement in a 70-year-old hypertensive patient taking amlodipine at a dose of 10 mg twice daily.

The incidence of gingival enlargement with amlodipine was reported to be much lesser than nifedipine¹⁰, however; recently large numbers of cases are being highlighted.

Clinically, the enlargement is usually seen 1-3 months following the initiation of the drug in question.¹⁰ The present case is interesting as patient was taking amlodipine 10 mg twice daily from last five years but the enlargement was present from last one year only. Hence, the possibility of amlodipine induced gingival overgrowth should be considered for a late presentation too.

No further treatment was required as the overgrowth had almost subsided. This may be attributed to substitution of amlodipine with losartan and meticulous oral hygiene maintenance. Hence, the patient was referred to Department of Prosthodontics for prosthesis.

Conclusion:-

Gingival Overgrowth (GO) is due to adverse effect associated with the use of three major classes of drugs namely anticonvulsants, calcium channel blockers, and immunosuppressants. Dental surgeons should be able to identify the

changes in the oral cavity related to the general health of their patients. Every case of gingival enlargement should be treated in a step-wise manner inclusive of due consultation with patient's physician, substitution of the drug, non-surgical therapy, and surgical therapy (if needed), followed by supportive periodontal therapy at 3-month intervals.

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