Case Report

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DRUG INDUCED GINGIVAL ENLARGEMENT: A CLINICAL REPORT

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ABSTRACT:

Drug induced gingival enlargement is one of the main common side effect of epileptic drugs. Presently more than 20 prescription medicines are associated with these enlargements. The clinical and microscopic appearances of these enlargements using various drugs are same but however the mechanism of action may vary. Though, Phenytoin is one of the common drug used for epileptic patients, it has a high frequency of causing gingival enlargement. A rare case of phenytoin induced gingival enlargement has been reported in an 18 year old female patient. The treatment aspect included phase I therapy, substitution of the drug, the surgical excision of the enlargement by scalpel and diode laser. Maintenance and supportive therapy resulted in excellent clinical outcome.

Keywords: Gingival enlargement, Drug induced.

INTRODUCTION:

Gingival overgrowth/ enlargement were previously called as gingival hyperplasia or gingival hypertrophy.[1-3] Gingival enlargements have multifactorial etiology and it is frequently associated with inflammatory enlargement.[2] Drug induced gingival enlargement is defined as an increase in gingival tissue size resulting in whole or in part from systemic drug use.[4] Gingival enlargement is one of the side effect associated with the administration of several drugs. These drugs can be basically divided into three groups: anti-convulsants, calcium channel blockers, and immunosuppressant. [5] Drug induced gingival enlargement was first seen in epileptic patients using phenytoin by Kimball (1939).[3] Gingival enlargement is seen within 3 months after the initiation of the treatment with medications. These enlargements usually begin at the interdental papilla region and are more seen in anterior teeth. However the

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fibrotic enlargement is confined to attached gingiva.[6]

The severity of the enlargement increases where there is plaque accumulation. Patients who are on drugs that cause gingival enlargement will have some gingival over growth between teeth and thickening of gums.[6] Drug induced gingival enlargement is more prevalent in children and adolescence.[7] Recent studies have shown that, there is an association between oral hygiene status, prevalence and severity of drug induced gingival enlargement.[8]

CASE DETAIL:

A 18 year old female patient came to Department of Periodontics of our institution complaining of swollen gums in the upper and lower front teeth region . Clinical examination showed severe fibrotic enlargement in the anterior teeth region.Oral hygiene was poor. Case history revealed that the enlargement had started two years before and had been increasing since then. Medical history showed that the patient had been put on phenytoin (Garion).

On intra oral examination, marginal and interdental gingival enlargement was seen covering coronal one third of the maxillary and mandibular anterior teeth (Fig 1). Gingival was pale pink in colour with lobulated surface. Rolled out interdental margins with loss of scalloping is seen. The probing of gingival sulcus revealed presence of pseudo-pockets.

Patient was subjected to complete blood examination and all the parameters were in normal range. On the basis of the patient history and clinical examination, a clinical diagnosis of phenytoin induced gingival enlargement was made.

The treatment started with phase-I therapy including scaling and root planing. Patients physician was consulted regarding the drug substitution or withdrawal of the drug. The physician substituted the drug with sodium valproate.

After phase- I therapy, pockets were marked with crane Kaplan pocket marker. Surgical gingivectomy procedure was done from 11-13 and 41-43 using diode laser and was compared with scalpel excision with Kirkland knife from 21-23 and 31-33 (Fig 2,3,4). Post operative instructions were given to the patient and explained about the use of chorhexidine mouth rinse. The tissue was then sent for histologic evaluation .The biopsy report revealed epithelial and fibrous hyperplasia. More specifically ,the specimen consisted mostly of collagenized fibrous connective tissue bundles with associated acanthosis and elongated rete ridges . The lamina propria also contained a scattered inflammatory cell infiltrate .This histologic finding is consistent with the diagnosis of drug induced (phenytoin) gingival enlargement (Fig 6,7)

Patient was recalled after six months postoperatively, and there was elimination of gingival overgrowth and restoration of a physiological gingival contour giving the patient an esthetically pleasing appearance(fig 5)

DISCUSSION:

The use of medications which has the potential for developing gingival overgrowth will increase with the coming years. Among the old and new drugs which are used, phenytoin has the high prevalence rate for causing gingival enlargements.[3] Usually the treatment is targeted on the drug substitute and the effect of controlling local factors. The alternative drugs given for phenytoin are valproic acid and bamazepine.[5] Impaired function of teeth is usually associated with these enlargements. Different treatment modalities have been recommended depending on the type of enlargements. These treatment modalities might be effective but they do not prevent the recurrence of the disease.[3] Gultchin and Soshkan demonstrated that phenytoin cause increase in collagen synthesis and decrease in collagen breakdown.[4] Phenytoin is first introduced by Merritt and Putnam.[9]

Gingival enlargement causes aesthetic changes and clinical symptoms like pain, tenderness, bleeding, speech disturbances, dental occlusal masticatory problems and abnormal movement of teeth.[1]

Scalpel excision causes bleeding during and after the surgical procedure, wherein the diode laser maintains hemostasis. Healing is delayed with the use of laser when compared with scalpel. Treatment with surgical excision has more discomfort than with laser. But post operatively no clinical difference has seen between both the procedures.[6]

So, it is important for the doctor to identify the problem and give proper medication and treatment.

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FIGURES:

Figure 1:

Figure 2:

Figure 3:

Figure 4:

Figure 5:

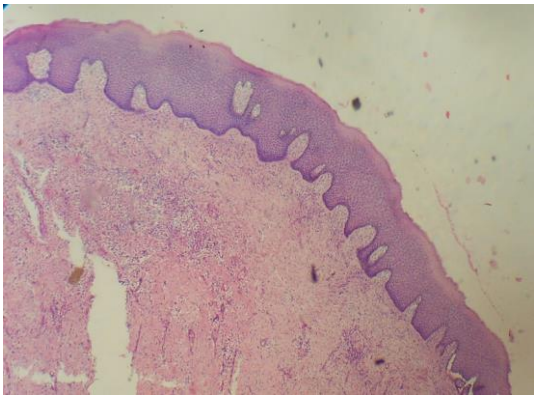

Figure 6:

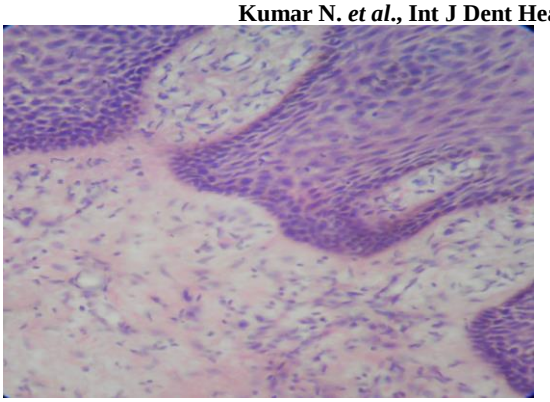

Figure 7: