

GINGIVAL ENLARGEMENT –A CASE SERIES

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ABSTRACT:

Gingival enlargement condition finds a unique place in literature, because it has been associated with a variety of local and systemic factors. Management of these conditions is dependent on the accurate diagnosis. In this case series 3 cases of gingival enlargements with various conditions i.e, pregnancy associated, drug induced, inflammatory associated have been described in terms of clinical course, management of these conditions both surgically and non surgically. It is also concluded that in all forms of gingival enlargements, good oral hygiene is necessary to minimize the effects of systemic factors. The selective usage of the medication with possible alternative of drug choices than the medication associated with gingival enlargement. Education and awareness regarding the special conditions like puberty and pregnancy is essential in order to reduce the occurrence of gingival enlargement. Although spontaneous reduction in the size of gingival enlargement.

KEYWORDS: Marginal Gingival, Interdental Papilla, Hypertension

INTRODUCTION

Gingival enlargement is a common clinical problem, usually associated with specific conditions. This condition finds a unique place in literature, because it has been associated with a variety of local and systemic factors. Management of these conditions is dependent on the accurate diagnosis. Most of the causative factors lead to an unusual hyperplastic tissue response to chronic inflammation associated with local irritants such as plaque, calculus or bacteria¹.

In puberty and pregnancy, gingival hyperplasia can be due to poor oral hygiene, inadequate nutrition, or systemic variation in hormonal stimulation^{2,3}. Gingival enlargements are also seen in several blood dyscrasias e.g. leukaemia, thrombocytopenia, or thrombocytopathy⁴.

Gingival enlargement is also seen in some individuals after usage of certain medication for a certain period of time. Drug induced enlargement is usually associated with patients who are consuming phenytoin an antiepileptic drug, cyclosporine an immunosuppressant and nifedipine and other calcium channel blockers. Although the prevalence varies greatly in different reports, the gingival enlargement prevalence in phenytoin-treated, non-institutionalized patients is about 50%. Earlier studies found prevalence rates for nifedipine ranging between 15% in control⁵ and is commensurate with the degree of plaque-induced inflammation.^{6,7}

In this case series, gingival enlargements due to various reasons and their management by both non surgical and surgical methods were explained.

Case 1 (Fig.1)

A 22yr old female patient reported with the chief complaint of swollen gums since 3 months. On evaluation patient was 8 months old pregnant and she had a problem of bleeding from the gums while brushing the teeth. There was no history of drug intake and hereditary reasons. On intra oral examination there was generalized gingival enlargement involving the marginal gingiva and interdental papilla of both upper and lower teeth. Subgingival calculus and plaque were present. Patient was unable to maintain oral hygiene in this area, because of gingival enlargement. The case was diagnosed as pregnancy induced gingival enlargement. Oral prophylaxis was performed after routine haematological investigation. Instructions were given regarding maintenance of oral hygiene. Patient was advised for recall after one week but Patient reported after delivery i.e. one month after an uneventful first pregnancy. Enlargement had slightly reduced and color also changed from bright red to reddish pink. There was mild enlargement in the lower anterior region still remaining, which was treated with gingivectomy.

Case-1.



Fig.1A. PreTreatment and subgingival scaling



Fig.1B. One month after oral prophylaxis



Fig.1C. One week after Gingivectomy

Case-2



Fig.2A. Pre Treatment- Labial Aspect



Fig.2B. Post Treatment- Labial Aspect



Fig.2C. PreTreatment-Lower Lingual Aspect



Fig.2D. Post Treatment- Lower Lingual Aspect

Case 2 (Fig.2)

A 40yr old female patient was reported with a chief complaint of enlarged gingiva in the upper anterior region and also in the lower arch lingual aspect. Her medical history revealed that she was hypertensive patient and was using Nifedipine since 4-5yrs. The patient developed the enlargement 1yr back as mild case which gradually increased to the present size. The case was diagnosed as a case of Drug induced gingival enlargement. The patient was referred to the general physician for the possibility of change of medication or for the reduction of drug dosage for the treatment of Hypertension. At the same time Oral prophylaxis, sub gingival scaling and root planing was

performed after routine haematological investigation. After the alteration of drug there was mild improvement in the enlargement, However later the enlargement in the lower arch was surgically treated with gingivectomy.

Case 3: (Fig.3)

A 13 yr old male patient was reported with the complaint of bleeding from the gums, swollen gums, and bad breath. On clinical examination there was severe gingival enlargement involving the marginal gingiva and the interdental papilla of the upper and lower anterior

region, and the upper left posterior region. The enlargement covered half of the crown of the upper left central incisor. There was profuse bleeding from the gums while probing and also pus discharge. Sub gingival plaque and calculus was evident. The patient's medical history and the drug history were not relevant. After routine blood investigations sub gingival scaling and root planning was performed. After 15 days the patient was again reported where there was improvement in the enlargement and again the procedure was repeated and recalled after 15 days. The enlargement got subsided totally with out any inflammation. Based on the clinical findings the case was diagnosed as a case of inflammatory gingival enlargement.

Discussion:

Incidence of gingivitis in pregnancy varies from around 50% to 100% (Maier and Orban 1949)⁵. Pregnancy does not affect healthy gingiva; it affects the severity of previously inflamed area. Kornman and Loesch (1980) have reported that the subgingival flora changes to a more anaerobic flora as pregnancy progresses⁶. *Prevotella intermedia* is the only microorganism that increases significantly during pregnancy. They also stated that the increase is due to elevations of levels of systemic estradiol and progesterone. O'Neil (1979) suggested that the altered tissue response to plaque is due to depression of the maternal T lymphocyte⁷.

Gingival enlargement does not occur without clinical evidence of local irritation. Pregnancy does not cause the condition, but the altered tissue metabolism in pregnancy accentuates the response to local irritants⁸. In our case 1, the pregnancy induced gingival enlargement had responded mainly for simple oral prophylaxis and subgingival scaling which can be attributed based on these evidences that it was a plaque aggravated gingival enlargement in a altered hormonal and immune circumstances. Therefore, the maintenance of oral hygiene before and during pregnancy is very important in order to reduce the incidence and the severity of gingival inflammation.

An increasing number of medications are associated with gingival enlargement. Drugs associated with gingival enlargement can be broadly divided into three categories: anticonvulsants, calcium channel blockers, and immunosuppressants. The use of medications with the potential to contribute to the development of gingival overgrowth will likely increase in the years to come. Among the old and relatively newer pharmacologic agents involved in gingival enlargement, overall, phenytoin still has the highest prevalence rate (approximately 50%), with calcium channel blockers about half as prevalent. Current studies on the pathogenetic mechanism of drug-associated enlargement are focusing on the direct and indirect effects of these drugs on gingival fibroblast metabolism. If possible, treatment is generally targeted on drug substitution and effective control of local

inflammatory factors such as plaque and calculus. When these measures fail to cause resolution of the enlargement, surgical intervention is recommended⁹.

In our case 2 the patient was on calcium channel blocker, the gingival enlargement had reduced with change of medication and non surgical and surgical management. These findings are in accordance with the previous report and it can also be presumed that selective usage of the medication with possible alternative of drug choices than the medication associated with gingival enlargement and proper oral hygiene can prevent gingival enlargements.

As previously mentioned, gingival enlargement may be caused by a multitude of causes. The most common is chronic inflammatory gingival enlargement, when the gingiva presents clinically as soft and discolored. This is caused by tissue edema and infective cellular infiltration caused by prolonged exposure to bacterial plaque, and is treated with conventional periodontal treatment, such as scaling and root planing.¹⁰ Situations in which the chronic inflammatory gingival enlargement include significant fibrotic components that do not respond to and undergo shrinkage when exposed to scaling and root planing are treated with surgical removal of the excess tissue, most often with a procedure known as gingivectomy.¹⁰



In our case 3 the patient was diagnosed as inflammatory gingival enlargement due to the absence of the significant medical and hereditary reasons. In this case the male child had bad oral hygiene and the clinical features are suggestive of inflammatory condition.

CONCLUSION

The local factors i.e. plaque and calculus are known to be responsible for gingival enlargement. In all forms of gingival enlargements, good oral hygiene is necessary to minimize the effects of systemic factors. The selective usage of the medication with possible alternative of drug choices than the medication associated with gingival enlargement, Education and awareness regarding the special conditions like puberty and pregnancy is essential in order to reduce the occurrence of gingival enlargement. Although spontaneous reduction in the size of gingival enlargement commonly occurs, complete elimination of residual inflammatory lesions requires the removal of all forms of local irritants. Therefore, the importance of regular check up and oral prophylaxis cannot be overlooked.

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