Unilateral Inflammatory Fibro-Epithelial Hyperplasia: A Case Report

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Abstract Gingival enlargement is one of the common features of gingival disease which can be seen in the form of fibrous and/or, inflammatory overgrowth or, combination of both. Gingival enlargement is most commonly seen due to the presence of local factors such as plaque and calculus. These local factors result in the inflammatory hyperplasia of marginal gingiva and interdental papilla and may be localized or, generalized. Such type of enlargements may lead to difficulty in mastication, altered speech and unesthetic appearance which may cause psychological problems. The present case report reveals the successful management of a case with gingival enlargement which was treated with Kirkland flap for the upper anterior and right posterior regions while modified Widman flap procedure that was performed for lower anterior region to excise the tissue along with the pocket lining.

Keywords Inflammatory Fibro-Epithelial hyperplasia; Gingival enlargement; Kirkland flap; Modified Widman flap

Background
Gingiva is constantly subjected to internal and external stimuli and therefore, presents with various forms of diseases that range from developmental, inflammatory and reactive to neoplastic (Effiom et al., 2011). Gingival enlargement is one of the common features of gingival disease which can be seen in the form of fibrous and/or, inflammatory overgrowth or, combination of both (Trackman and Kantarci, 2004). The gingival enlargement can be classified as follows (Wright et al., 2004):

- Inflammatory enlargement;
- Drug induced gingival enlargement;
- Enlargement associated with systemic disease;
- Neoplastic enlargement;
- False or, pseudo enlargement.

Gingival enlargement is most commonly seen due to the presence of local factors such as plaque and calculus. These local factors result in the inflammatory hyperplasia of marginal gingiva and interdental papilla and may be localized or, generalized. Other factor which may overstate such enlargement is the hormonal imbalance seen during puberty and pregnancy (Seymour, 2006). Gingival enlargements are, also, seen in numerous blood dyscrasias including thrombocytopenia and leukemia (Blackwell et al., 1989). Such type of enlargements may lead to difficulty in mastication, altered speech and unesthetic appearance which may cause psychological problems (Jhadhav et al., 2013).

1 Case Report
A 45 years old male patient reported to the Department with the chief complaint of swelling in the gums of teeth in the upper and lower front and upper left back regions of jaws since 6 months. Patient, also, complained of difficulty in chewing food and unesthetic appearance. Patient gave history of unilateral mastication from right side since last 2-3 years due to a painful carious tooth in lower left back region of jaw. An intra-oral examination revealed the presence of plaque and calculus and deep pockets with depth > 5mm in upper and lower anterior and
upper left posterior regions. The gingiva seemed to be enlarged with Grade II enlargement. The gingival enlargement was diffuse, sloppy in appearance, firm and fibrotic, accompanied by inflammation (Figure 1a). Orthopantomograph (OPG) revealed horizontal bone loss in the said regions of maxilla and mandible (Figure 1b). There was no drug or, systemic history reported. Differential diagnoses included diabetes and other systemic diseases associated periodontitis which were ruled-out after determination of completed blood counts and HbA1c levels. The treatment plan was explained to the patient and a written consent was obtained. On day 1, scaling and root planing was performed and oral hygiene instructions were given to the patient (Figure 2). After 4 weeks of phase I therapy, based on the amount of tissue remaining and probing pocket depth, the treatment planning was done. For upper anterior and right posterior regions, Kirkland flap was performed for debridement whereas for lower anterior region, modified Widman flap procedure was performed to excise the tissue along with the pocket lining. Following this the residual plaque and calculus was removed and thorough root planning was done (Figure 3a; Figure 3b; Figure 3c; Figure 3d; Figure 3e; Figure 4a; Figure 4b; Figure 4c; Figure 4d). Periodontal Coe-pack dressing was given and the excised tissue was sent for histopathological examination. H & E staining showed hyperplasia of stratified squamous epithelium and an intense fibroblastic activity in the connective tissue along with chronic inflammatory cell infiltration, chiefly composed of plasma cells and lymphocytes with numerous blood vessels (Figure 5) suggestive of inflammatory fibro-epithelial hyperplasia. Post-operatively, patient was given antibiotics, analgesics and chlorhexidine mouth wash. Suture removal was done after 1 week and the patient was instructed to maintain oral hygiene. Patient showed uneventful healing after 1 month and was followed-up for next 6 months with successful outcome.
2 Discussion
Gingival overgrowth may be seen involving only interdental papilla and/or, both interdental papilla and marginal gingiva affecting either of the jaws or, both (Tiwana et al., 2005). The terms “hypertrophy” and “hyperplasia”
have been used since decades for the enlargement of the gingiva (Hassell, 1980). Gingival enlargement can be seen as a result of various stimuli and treatment planning is done on the basis of the underlying cause and the pathologic changes seen (Newman et al., 2006). The most common type of gingival enlargement seen is plaque induced inflammatory gingival enlargement (Agrawal et al., 2011). This is seen as a result of cellular infiltration and edema due to continuous insult caused by the bacterial plaque and is treated with conventional scaling and root planning procedures (Buddiga et al., 2012). The regions wherein there is fibrous component which does not respond to the conventional scaling and root planing are treated with surgical methods including gingivectomy or, by modified Widman flap (Jhadhav et al., 2013). The bulging tissue forms pseudo pockets which are not self cleansable and instead allow accumulation of food debris and microorganisms. A foul breath results due to degradation of food debris. Along with the local factors, systemic factors may contribute to the severity of the disease process and compromise the outcome of the therapeutic procedure done (Hassell and Jacoway, 1980). In the present case report, inflammatory enlargement was present in relation to upper and lower anterior and upper left posterior regions of jaws compromising esthetics. After non-surgical therapeutic procedure, upper anterior and left posterior regions showed resolution of the inflammation whereas lower anterior region showed less resolution as the fibrotic component was eminent while both upper and lower teeth showed presence of pockets which was, then, corrected by the surgical therapy.

3 Conclusions
Gingival enlargement is largely diffuse in nature which can interfere in speech and mastication. Local factors such as plaque and calculus are known to be the possible causatives for gingival enlargement. In the present case report, increase in the size of gingiva resulted in unesthetic appearance; hence, non surgical therapy along with surgical therapy was planned which resulted in resolution.

References

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