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Case report

Different surgical management modalities for a case of idiopathic generalised gingival enlargement with chronic periodontitis

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ABSTRACT

Generalized gingival enlargement can be caused by a variety of etiological factors. It can be inherited like hereditary gingival fibromatosis; associated with other diseases characterizing a syndrome; or induced as a side effect of systemic drugs, such as phenytoin, cyclosporin, or nifedipine. Idiopathic gingival enlargements are considered to be a separate entity where the cause cannot be identified. This is a case of a patient with idiopathic gingival hyperplasia and an undiagnosed genetic disorder with chronic periodontitis which was managed surgically in the department with different modalities using flaps and gingivectomy namely scalpel, LASER and electrocautry.

1. Introduction

Gingival enlargement may be caused by a multitude of causes. Increase in size of the gingiva is a common feature of gingival diseases. The current accepted terminology for this condition is "gingival enlargement" or "gingival overgrowth". This is strictly a clinical description of the condition and avoids the erroneous pathologic connotations of terms used in past such as "hypertrophic gingivitis" or "gingival hyperplasia" [1].

In referral to the period of onset, the overgrowth can be classified as: pre-eruptive (<6 months of age), during the deciduous dentition (from 6 months to <6 years), during the mixed dentition period (6 years–12 years) and during the permanent dentition periods, before (12 years–20 years) and after adolescence age 20 or later. The overgrowth can result in dental defects including diastema, malocclusion and delayed eruption of permanent dentition or prolonged retention of primary dentition, causing aesthetic and functional problems such as normal swallowing pattern, difficulty in speech and mastication [2].

The types of gingival enlargement can also be classified according to etiological factors and resultant pathological changes which include inflammatory, drug induced enlargement associated with systemic diseases and conditions, neoplastic and gingival fibromatosis (GF) either idiopathic or hereditary [1].

Idiopathic gingival fibromatosis is a rare condition of undetermined cause. It is also designated by terms such as congenital hypertrophy of the gums, elephantiasis gingivae, gingival gigantism, symmetrical fibroma of the palate, gingival hyperplasia, gingival overgrowth and congenital macrogingiva. Gingival fibromatosis can further be divided into idiopathic, associated with syndrome and hereditary type. Inspite of the fact that gingival fibromatosis is a benign condition impairment of normal function aesthetics are all considered as valid reasons for surgical intervention in order to reduce the excessive gingival forces [3]. The surgical correction of the enlargement can be achieved by scalpel, electrocautry and LASER (light amplification by stimulated emission of radiation) [4]. There is no literature comparing the surgical outcome of gingivectomy techniques with different surgical management modalities. The present study has been undertaken to compare the efficacy of different surgical management modalities employed in different sextants of a case of idiopathic generalized gingival enlargement.

2. Case report

A 31-year-old female reported to the Outpatient Department of our institution with a chief complaint of enlarged gum in the mouth from last 3 years (Fig. 1). On eliciting the history she was apparently asymptomatic 3 years back and the enlargement increased to the present size over a period of time. It was not associated with pain or pus discharge, but complained of difficulty in clarity of speech and

☆ AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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Fig. 1. Intraoral gingival enlargement photograph.

chewing from last 6 months. She was psychologically depressed due to social stigma and family rejection. On eliciting her medical history, no history of breathlessness, weight loss, lethargy, bleeding tendencies were elicited. Patient did not reveal any history of epilepsy or any use of medication for any other systemic illness. She gave a history of regular menstrual cycle without long term use of oral contraceptive. She also did not give any history of miscarriage or medical termination of pregnancy and any consanguinity marriage. There was no history of such enlargement in her siblings, son or in her parents and grandparents (as much as she could recollect).

On general physical examination she was moderately built and nourished, well oriented to time, place and person and her vitals were within normal limits. On extra-oral examination perioral fullness with increased nasolabial angle and increased mentalis muscle activity with lip incompetency was noticed. On inspection, patient had 30 teeth with missing 16 and 36. Gingiva was pink in colour and a generalized, diffused nodular enlargement of marginal, interdental and attached gingiva of both upper and lower arches was seen (Fig. 2). The enlargement extended facially and lingually covering 2/3 of the crown and interfering with occlusion. On palpation, the gingiva was firm and fibrous in consistency. There were no overt areas of bleeding on probing and pitting on pressure. Pathologic migration of upper and lower anterior teeth were present. Patient had a poor oral hygiene with calculus deposits and grade II mobility was present in all posterior teeth clinically. The degree of gingival enlargement was scored as Bokenkamp grade III.

3. Investigations

Routine haemogram, urine investigations, orthopantomogram (OPG), posteroanterior skull and incisional biopsy was done for histopathologic examination. The patient was referred to Gynaecologist and Radiologist for their consent and opinion. Ultrasound (USG) abdomen, serum calcium and alkaline phosphatase, estrogen levels estimation, enzyme linked immunosorbent assay (ELISA) and Hbs Ag tests were also carried out to rule out any underlying systemic abnormalities. All the reports of the patient were within normal limits. Orthopantomogram showed generalized bone loss in relation to all posterior teeth (Fig. 3).

Fig. 2. Palatal side gingival enlargement.

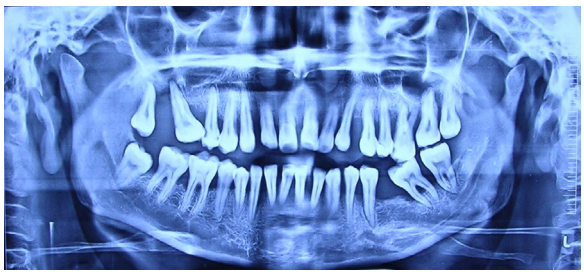

Fig. 3. Orthopantomogram (OPG).

Histopathologic picture showed parakeratinized highly proliferative stratified squamous epithelium with acanthosis and connective tissue had dense bundles of collagen fibres parallely arranged with fibroblasts and few inflammatory cell infiltration giving a picture of fibroepithelial hyperplasia (Fig. 4).

4. Surgical procedure

Based on the history, clinical findings and investigations in a diagnosis of non syndromic idiopathic gingival fibromatosis associated with generalized periodontitis was arrived at. Phase I therapy consisted of patient education and motivation after a written informed consent was taken. Thorough full mouth scaling and root planing were carried out following which the patient was observed for 4 weeks before surgical phase. She was later taken up for sextant wise surgery under local anaesthesia.

The different surgical modalities included ledge and wedge gingivectomy combined with open flap debridement in upper anterior region (Fig. 5), internal bevel gingivectomy (IBG) in areas where there was bone loss and external bevel gingivectomy (EBG) in areas where there was no bone loss. Electrocautery (Fig. 6) was used for excision of the enlarged gingiva on left upper sextant and lower right sextant was excised by a diode LASER (Fig. 7). A gap of 15

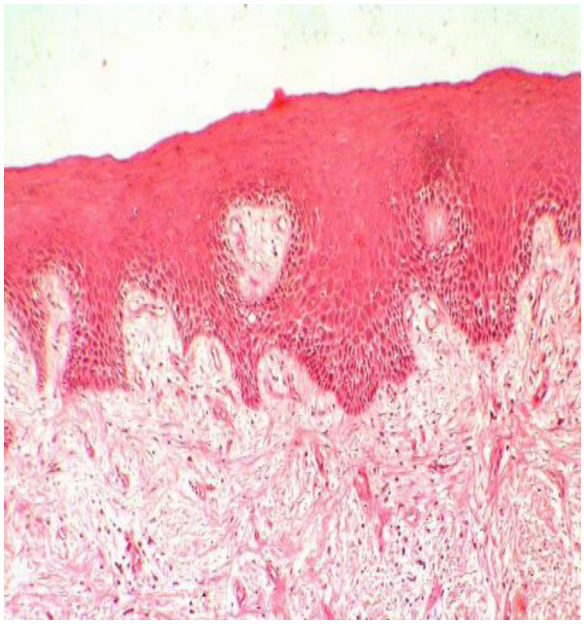

Fig. 4. Histopathology.