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Nonsurgical periodontal therapy for the management of inflammatory gingival enlargement: A case report

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Abstract

Inflammatory gingival enlargement is a common type of gingival enlargement caused by dental plaque. It can lead to problems like difficulty in oral hygiene maintenance, speech as well as may impair esthetics. This case report describes a case of an inflammatory gingival enlargement in a systemically healthy young male involving lower anterior teeth. It was successfully managed solely by non-surgical periodontal therapy. This case report shed light to the importance of non-surgical periodontal therapy.

Keywords: Inflammatory gingival enlargement, gingival overgrowth, non-surgical periodontal therapy

Introduction

Oral cavity is constantly exposed to a variety of internal and external stimuli, many of which cause an inflammatory response. Dental plaque is the primary cause of inflammation in the oral cavity. Dental plaque is the community of microorganisms found on a tooth surface as a biofilm embedded in matrix of polymers of host and bacterial origin^[1]. Accumulation of dental plaque can cause gingival inflammation, which can manifest as a reddish appearance of the gingiva that bleeds on probing, a change in the consistency of the gingiva from firm to soft, and an increase in the size of the gingiva known as inflammatory gingival enlargement. These enlargements begin with the ballooning of the interdental papilla and marginal gingiva. They can be localised or generalised. Unless it is complicated by infection or trauma, it progresses slowly and painlessly. They appear as a pedunculated or sessile mass. Because the appearance of the lesion can sometimes resemble that of a tumor, proper diagnosis is required.

Management of such inflammatory enlargement aims at treating the pathology and eliminating the dental plaque which can be achieved by nonsurgical periodontal therapy (NSPT). Nonsurgical periodontal therapy is the cornerstone of periodontal treatment that helps to restore gingival health by effectively removing the local factors that contribute to gingival inflammation^[2,3].

This report highlights the importance of NSPT in the management of inflammatory gingival enlargement as a sole therapeutic option.

Case Report

Clinical presentation

A 36-year-old male reported to the OPD of periodontology with a presenting complaint of gum swelling in lower front teeth since 2 weeks (fig:1). He described a progressive increase in the size of the swelling, as well as discomfort and significant bleeding during brushing. He had not undergone any dental treatment for the same. On general examination patient was well built and nourished. He was systemically healthy and was not under any medications. Patient reported no adverse habits. Medical and family history were not relevant.

On intraoral examination there was generalised inflammation of the marginal gingiva with enlargement of interdental papilla in relation to 25 (fig:2). There were moderate plaque deposits suggesting less than optimal oral hygiene self-care. A discrete enlargement of the interdental papilla of 41 and 42 extending to the middle third of the crown and enlargement of interdental papilla and marginal gingiva of 31 was noted. The surface was erythematous with fibro edematous consistency, and the borders were friable.

On palpation, the enlargement was non-tender, with mobility of the 31 and 41. Detailed periodontal examination revealed probing pocket depths in the range 4-8 mm in respect to the involved teeth. Pseudopocket of 3mm was noted on the interproximal aspect of 41(distally) (fig:3). Whole complement of teeth was present and he had Full mouth plaque score of 44.1% and full mouth bleeding score of 38.9%.

On radiologic examination, intraoral periapical radiograph revealed bone loss in relation to mandibular anterior region (fig:5)

Hematological examination including complete blood count and differential count were performed to rule out underlying hematologic pathology and found to be within normal limits. Viral markers were negative.

Patient was diagnosed as having localized periodontitis Stage III grade C with no risk factors with respect to lower incisors. Provisional diagnosis of inflammatory gingival enlargement was made since he was systemically fit and well and not on any drugs. Differential diagnosis of pyogenic granuloma and plasma cell gingivitis were considered.

Case management

It was decided to manage the case initially by non-surgical means alone. Patient was given oral hygiene instructions. Nonsurgical periodontal therapy (NSPT) consisting of supragingival professional mechanical plaque removal (PMPR) was performed and subgingival PMPR under local anesthesia was done in relation to 31 41 42 after splinting of the teeth with wire and composite(fig:5). Subgingival debridement was also performed in 24 region where deep pocket of 6 mm was noted. After NSPT, patient was instructed to use 0.2 % chlorhexidine mouth wash (Chlohex ADS) for two weeks and advised a desensitizing tooth paste (SHYNM). On reevaluation after 6 weeks, erythema and bleeding subsided markedly and enlargement reduced substantially. Oral hygiene instructions were reinforced and repeated subgingival PMPR was performed since there were residual deep pockets more than 4 mm that bled.

Clinical outcome

On 3-month reevaluation the gingiva appeared normal with complete resolution of the gingival enlargement(fig:6). There was a drastic reduction in pocket depth in mandibular anterior region Pseudo pockets were completely eliminated and the pocket depth also reduced to 3-4mm in mandibular anterior region(fig:7).

Discussion

Inflammatory gingival enlargement is the most common form of gingival enlargement [4]. It is caused by prolonged exposure of dental plaque. Dental plaque accumulation can be caused by poor dental hygiene, orthodontic appliances, improper restoration margins, malaligned teeth, oral habits, open bite malocclusion, and so on [4]. Enlargement manifests clinically as soft and discolored gingiva due to edema and infective cellular infiltration induced by prolonged contact to bacterial plaque. Once the dental plaque is removed resolution of the gingival enlargement happens. In most cases, NSPT alone can accomplish this. NSPT is a critical initial step of periodontal treatment [5]. In the case of inflammatory gingival enlargement caused solely by plaque, repeated subgingival debridement can completely resolve the enlargement [6]. This will eliminate the need for extensive surgical therapy. Patient compliance is another important aspect of the management. In many cases patients refrain from brushing as it will provoke bleeding. So tailored oral hygiene instructions and

personalised professional plaque removal strategies are the mainstay in treatment of such cases [7, 8].

In the present case patient reported with gingival inflammation, bleeding on probing, mobility, presence of deep periodontal pockets and gingival enlargement at the marginal and papillary level around lower incisors. NSPT led to the reduction of inflammation, reduction of probing pocket depth and also helped in gaining the attachment levels [9]. If residual enlargement still persists after meticulous NSPT, surgical debridement becomes necessary [5]. However, in this case, upon 3-month reevaluation absolute resolution of inflammation was observed with NSPT alone. Even though healing is a continual process which may take up to 9 months, greater part of healing takes place within first 3 months of initial treatment [10]. Patient was highly motivated and his oral hygiene practices were also improved which also contributed the improvement in his condition [7].



Fig 1: Swelling in lower anterior region



Fig 2: Inflamed interdental papilla in relation to 25



Fig 3: Deep periodontal pocket with pseudopocketing



Fig 4: IOPAR shows bone loss in relation to mandibular anterior region



Fig 5: Splinting using wire and composite



Fig 6: 3-month postoperative healing of gingiva



Fig 7: Postoperative image showing reduction in pocket depth



Preoperative



Postoperative

for resolution of chronic inflammatory gingival enlargements there by reducing the need for periodontal surgery. Thoroughness of the professional efforts and highly motivated and complaint patients make the treatment successful.

Conflict of Interest

Not available

Financial Support

Not available

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Conclusion

The primary goal of NSPT is to relieve discomfort, cure gingival inflammation, and evaluate the patient compliance for further management. NSPT can be efficiently employed