

Systemic Observation-Surgical Periodontic Approach in the Management of Amlodipine Induced Gingival Enlargement

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ABSTRACT:

Background: Drug induced gingival enlargement is frequently observed in patients taking three main group of drugs like calcium channel blockers (CCBs), immunosuppressant's and anticonvulsants. Amlodipine belongs to the dihydropyridine-a third generation calcium channel blockers agents that may cause the side effect of drug-induced gingival enlargement and oral bacteria intervention due to calculus retention. This case report describes the management of gingival enlargement in a hypertensive patient taking amlodipine.

Purpose: This case report was aimed to discuss the treatment and maintenance of systemic observationsurgical periodontic approach to restore gingival enlargement.

Case Report: A 47-years old man was referred to the Department of Periodontology, Faculty of Dentistry, Airlangga University complaining of swellings and bleeding on his gingiva in all region. He felt very uncomfortable as the swelling interfered while chewing and sometimes there was bleeding spontaneously and halitosis. He had hypertension since 5 years and was on medications Captopril 12,5 mg daily during 4 years and Amlodipine 5mg daily during last 1 year. A provisional diagnosis and systemic observation-periodontal phases treatment were taken to restore gingival enlargement condition.

Case Management: Systemic observation of medication use, periodontal phases treatment such as scaling root planning, periodontal surgery as flap surgery, home oral hygiene maintenance, control recall every month during first 3 months were taken.

Conclusion: The successful of combination carefully systemic observation-surgery periodontal approach are promising to maintain Amlodipine induced gingival enlargement.

KEYWORDS: Amlodipine, Gingival enlargement, Systemic observation, Surgical periodontic

INTRODUCTION

Drugs associated with gingival enlargement can be broadly divided into three categories: anticonvulsants, calcium channel blockers, and immunosuppressants. Although the pharmacologic effect of each of these drugs is different and directed toward various primary target tissues, all of them seem to act similarly on a secondary target tissue, i.e., the gingival connective tissue, causing common clinical and histopathological findings¹.

Amlodipine belongs to the dihydropyridine-a third generation calcium channel blockers agents that may cause the side effect of drug-induced gingival enlargement and oral bacteria intervention due to calculus retention. CCBs are commonly prescribed and used for the treatment of cardiovascular diseases. Some studies have addressed the risk of gingival hyperplasia during the use of CCBs, it was often based on case reports (Seymour et al. 1994, Bhatia et al. 2007) or on a cross-sectional study (Meisel et al. 2005)².

CASE REPORT

A 47-years old man was referred to the Department of Periodontology, Faculty of Dentistry, Airlangga University complaining of swellings and bleeding on his gingiva in all region. He felt very uncomfortable as the swelling interfered while chewing and sometimes there was bleeding spontaneously and halitosis. He had hypertension since 5 years and was on medications Captopril 12,5 mg daily during 4 years and Amlodipine 5mg daily during last 1 year. Some months after using Amlodipin, he developed gingival hyperplasia.

The clinical appearance of the tissue was exophytic and hyperplastic tissue was red, smooth and shiny in all region, with no pain on touch, and bled easily on probing (Fig.1). Gingival tissue around the crown reached the occlusal tooth surface, with periodontal pockets measuring more than 5 mm, plaque and calculus (Fig. 2). A provisional diagnosis and systemic observation-periodontal phases treatment were taken to restore gingival enlargement condition.



Fig 1. Gingival hyperplasia in all teeth region



Fig 2. Pocket measurement more than 5 mm

The dental treatment included scaling and root planning and instructions on appropriate method for brushing teeth. Referral to internist was made, due to the possibility of medication changing. After 2 weeks, the symptoms of gingival hyperplasia markedly relieved (Fig.3). But the rontgen panoramic result showing severe bone loss in the regio 16,17,18,27,28,31,32,41,42 (Fig.4).



Fig 3. After 2 weeks, the symptoms of gingival hyperplasia markedly relieved



Fig 5. Conventional flap surgery added with bone graft



Fig 4. Rontgen panoramic showing severe bone loss



Fig 6. Mattress suturing was done

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The conventional surgery planning were moved from gingivectomy for reduce gingival pocket into flap surgery added with bone graft (Fig.5 & Fig.6). While the gingival hyperplasia was relieved, but there are severe bone loss in some region. Commercially available chlorhexidine rinse (0.12%) was used to help control plaque accumulation and to reduce the development of gingival inflammation.

Follow up was done one to three monthly, once each month. Upon examination at 3 month review, the periodontal pockets were generally reduced. There is no hyperplasia gingival recurrency during examination. Regular oral hygiene reinforcement and scaling was done for him. One year after completion of the surgery, disappearance of hyperplasia gingiva and satisfactory periodontal condition were confirmed (Fig 7).



Fig 7. Clinical review after one year periodontal treatment

DISCUSSION

The pathogenesis of hyperplasia gingiva is uncertain and the treatment is still largely limited to the maintenance of an improved level of oral hygiene and surgical removal of the overgrown tissue. Several factors may influence the relationship between the drugs and gingival tissues, were including age, genetic predisposition, pharmacokinetic variables, and alteration in gingival connective tissue homeostasis, histopathology, ultra-structural factors, inflammatory changes and drug action on growth factors⁴. Most studies show an association between the oral hygiene status and the severity of drug- induced hyperplasia gingiva. This suggests that plaque-induced gingival inflammation may be important risk factor in the development and expression of the gingival changes⁵. In this present case the local environmental factors such as poor plaque control and multiple retained roots at the initial presentation may act as risk factors that had contributed to worsen the existing gingival enlargement and therefore complicate the oral hygiene procedures⁶.

Physicians should be able to identify changes in oral cavity related to the health of the patients. Thus, there is a need collaboration between general doctors or internist in this case with dental practitioner in the care of drug induced gingival enlargement, to have holistic result both systemic and good clinical outcome.

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