CASE REPORT

VERAPAMIL INDUCED GINGIVAL HYPERPLASIA: A RARE ENTITY

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ABSTRACT

Verapamil is an effective prophylactic treatment for cluster headaches. This paper reports a case of a 52 year old male who developed verapamil induced gingival hyperplasia.

Keywords: Verapamil; Adverse effects; Gingival Overgrowth; Adult; Male; Gingival Hyperplasia

Introduction

Verapamil is an effective prophylactic treatment for cluster headaches and, therefore, is widely used. This side effect, is reversible with reduction or cessation of verapamil, and can lead to dental loss.\(^1\) Onset of gingival overgrowth was associated with drug dosage, bacterial accumulation, and gingival inflammation. Histologically, the findings resembled that seen in hyperplasia induced by phenytoin, cyclosporin, and other calcium channel blockers.\(^2\) This paper reports a case of a 52 year old male who developed verapamil induced gingival hyperplasia.

Case Report

A 52-year old hypertensive male was reported to the outpatient clinic of New Horizon Dental College and Hospital, Sakri, Bilaspur, Chattisgarh, India with a chief complaint of gradual progressive gingival enlargement for last one year. History reveals that the patient was on verapamil 10 mg/day for the past two years. His oral hygiene was average and examination of the oral cavity revealed mild deposits of calculus with significant painless gingival hyperplasia (Figure 1). On clinical examination there was mild bleeding on probing with absence of any discharge. In due consultation with the physician and dental team, verapamil was discontinued and switched over the patient to ACE inhibitor enalapril. Patient was advised to maintain good oral hygiene and regular follow up.

![Figure 1. Severe verapamil induced gingival hyperplasia (beaded appearance of gingiva on upper and lower anterior facial aspect)](image)

Discussion

Three classes of drugs are primarily implicated as causative of gingival hyperplasia, these are anticonvulsants, the immunosuppressant cyclosporine and calcium channel blockers.\(^1,3\) The most common cause of drug induced gum hyperplasia is diphenylhydantoin.\(^3\) Amongst the calcium channel blocker, the commonest agent associated with gum enlargement is nifedipine, though other agents implicated are verapamil, felodipine, nitrendipine, diltiazem, and amlodipine. The exact incidence of calcium channel blocker associated gum hyperplasia is not known but it is believed to be about 6.3% for nifedipine\(^4\) and 4.2% for verapamil.\(^5\) Jorgensen has reported an incidence of 3.3% in patients taking 5mg/day of verapamil which was similar to that of control group of cardiac patients not taking calcium channel blocker.\(^6\)

The exact etiology of drug induced gum enlargement is unknown but seems multifactorial.\(^1\) Some of the known risk factors are: presence of gum inflammation (gingivitis due to poor oral hygiene), presence of dental plaque, and the dose and duration of therapy. The resultant gum enlargement may cause significant morbidity related to oral hygiene, mastication, altered tooth eruption, interference with speech apart from aesthetic concerns. Matharu et al\(^1\) reported that the term hyperplasia is a misnomer as enlargement does not result from an increase in the number of cells but an increase in the extracellular tissue volume with an inflammatory infiltrate of predominantly B lymphocytes. On histopathological evaluation there is evidence of highly vascular connective tissue, acanthotic and thickened epithelium with long rete pegs containing dyskeratotic pearls, and varying amounts of subepithelial inflammatory infiltrate.\(^6\) Results of cell culture studies indicate that the drugs may lead to proliferation of selected fibroblasts leading to an imbalance between regeneration and degeneration.\(^6\) The treatment includes strong stress on maintaining good oral hygiene (frequent professional plaque removal if needed), discontinuing the offending agent, change of medication class. Usually regression occurs with time. If nonsurgical approach is effective, periodontal surgery in the form of gingivectomy or periodontal flap procedures can effectively reduce the enlarged gingival tissues.\(^7\)

Conclusion

In conclusion the treatment options for drug-induced gingival enlargement should be based on the medication being used and the clinical presentation of the individual case followed by consultation with the patient’s physician. In general it may take 1 to 8 weeks for resolution of gingival overgrowth following drug discontinuation.
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References


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