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Late Onset Amlodipine Induced Gingival Overgrowth

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Abstract

Drug-induced gingival overgrowth (DIGO) was first reported in the 1960s, in association with phenytoin use in children. Nifedipine, among other CCB has most frequently been associated with DIGO with prevalence ranging from 14 to 83 %. The prevalence of gingival overgrowth associated with amlodipine is reported to be 3.3%, which is significantly lower than that associated with nifedipine. Other reports show that the prevalence of amlodipine-induced gingival overgrowth (AIGO) ranges from 1.7- 3.3 %. Majority of available literature showed that AIGO occurs within 2-3 months of starting amlodipine at a dose of 10 mg daily. It rarely occurs within first 6 months of onset at a lower dose (5 mg daily). There is one case report of AIGO occurring with low-dose amlodipine (5 mg daily) that appeared after several years of administration. We present the first case of AIGO occurring with high dose amlodipine (10 mg daily) after several years of administration.

Keywords

hypertension; amlodipine; amlodipine induced gingival overgrowth

Introduction

Drug-induced gingival overgrowth (DIGO) was first reported in the dental literature in the 1960s, in association with phenytoin use in children with epilepsy [1]. DIGO culprits are mainly anticonvulsants, antihypertensive calcium channel blockers (CCB), and immunosuppressants [2]. Nifedipine, among other CCB has most frequently been associated with DIGO with prevalence ranging from 14 to 83 % [2, 3]. The prevalence of gingival overgrowth associated with amlodipine is reported in one paper to be 3.3%, which is significantly lower than that associated with nifedipine [3]. Other reports show that the prevalence of amlodipine-induced gingival overgrowth (AIGO) ranges from 1.7- 3.3 % [3, 4, 5, 6].

Majority of available literature showed that AIGO occurs within 2-3 months of starting amlodipine at a dose of 10 mg daily. It rarely occurs within the first 6 months of onset at a lower dose of 5 mg daily [7]. There is one case report of AIGO occurring with low-dose amlodipine (5 mg daily) that appeared after several years of administration [8]. We present the first case of AIGO occurring with high dose amlodipine (10 mg daily) after several years of administration.

Case Report

A 54-year-old African American lady presented to the primary care clinic in August with swelling in her gums. Patient started to notice gum swelling in April 2015, and it had been progressively

worsening. In June, she saw her dentist and her plaque score was 63/64. She had deep cleaning followed by surgical removal of excess gum tissue a week after. In 2 months, regrowth of gum hyperplasia occurred and has been progressive until she presented to the clinic in August 2015. She has good oral hygiene with regular teeth brushing and flossing daily, and teeth cleaning one yearly.

She has past medical history of hypertension and hyperlipidemia. She has been taking Amlodipine/benazepril 10/20 mg on and off for 20 years. Last time she started amlodipine was 6 years prior to the clinic visit and has been continually taking it for that period.

Examination of oral cavity revealed diffuse gingival hyperplasia around the lower gum. Large extra gingival tissue can be noted behind the lower incisor teeth (Figures 1, 2). Because of the fair plaque score, we considered the diagnosis of AIGO. We discontinued Amlodipine 10mg at that point. The patient had her excess gum tissue surgically removed in September by her dentist. During follow up 6 months later, no recurrence of the tumorous gingival swelling was noted. There is still some gingival hyperplasia of the free and attached gingivae at the anterior mandibular gingivae (Figures 3, 4).

Figure 1,2: Lower gingival overgrowth related to amlodipine use

Discussion

Amlodipine is a third generation dihydropyridine calcium channel blocker, similar to nifedipine. It is widely used in clinical practice for hypertension, and is considered the first line of treatment in certain cases. The underlying mechanism behind AIGO is still not completely understood. It has been described as multifactorial, involving both non-inflammatory and inflammatory mechanisms [9].

The treatment of AIGO mainly depends on maintaining good oral hygiene and frequent plaque removal, along with discontinuing the offending agent. Regression occurs with time in most cases. Periodontal surgery is the last resort if medical management failed [10, 11].

Most cases of AIGO appear after several months of administration. The one reported case of AIGO occurring after several years happened with administration of low dose amlodipine (5 mg daily). Our case is the first reported case of AIGO occurring after several years of administration of high dose amlodipine 10 mg daily.

Most case reports of AIGO were published in the dentistry literature. There are only a few sources in the medical literature that discuss that particular side effect of amlodipine, the commonly use antihypertensive medication. Every physician should be aware of this usually overlooked but potentially harmful side effect. Oral health maintenance and regular dental checkups should be emphasized in patients on amlodipine to minimize the unwanted side effects.

Figure 3,4: No recurrence of excess gingival overgrowth after discontinuing amlodipine

References

1. Thomason JD, Fallaw TL, Carmichael KP, Radlinsky MA, Calvert CA. Gingival hyperplasia associated with the administration of amlodipine to dogs with degenerative valvular disease (2004-2008). J Vet Intern Med. 2009;23(1):39-42.

2. Madi M, Shetty SR, Babu SG, Achalli S. Amlodipine-induced Gingival Hyperplasia - A Case Report and Review. West Indian Med J. 2015;64(3):279-82.

3. R. Livada and J. Shiloah. Calcium channel blocker-induced gingival enlargement. Journal of Human Hypertension, vol. 28, no. 1, pp. 10–14, 2014.

4. Tejnani A, Mani A, Sodhi NK, et al. Incidence of amlodipine-induced gingival overgrowth in the rural population of Loni. J Indian Soc Periodontol. 2014;18(2):226-8.

5. Jorgensen MG. Prevalence of amlodipine-related gingival hyperplasia. J Periodontol. 1997;68(7):676-8.

6. Ellis JS, Seymour RA, Steele JG, Robertson P, Butler TJ, Thomason JM. Prevalence of gingival overgrowth induced by calcium channel blockers: a community-based study. J Periodontol. 1999;70(1):63-7.

7. Joshi S, Bansal S. A rare case report of amlodipine-induced gingival enlargement and review of its pathogenesis. Case Rep Dent. 2013;2013:138248.

8. Pavlic V, Zubovic N, Ilic S, Adamovic T. Untypical amlodipine-induced gingival hyperplasia. Case Rep Dent. 2015;2015:756976.

9. Nishikawa S, Nagata T, Morisaki I, Oka T, Ishida H. Pathogenesis of drug-induced gingival overgrowth. A review of studies in the rat model. J Periodontol. 1996;67(5):463-71.

10. Bhatia V, Mittal A, Parida AK, Talwar R, Kaul U. Amlodipine induced gingival hyperplasia: a rare entity. Int J Cardiol. 2007;122(3):e23-4

11. Paulo M. Camargo, Philip R. Melnick, Flavia Q. M. Pirih, Rodrigo Lagos and Henry H. Takei. Treatment of drug-induced gingival enlargement: aesthetic and functional considerations. Periodontology 2000. (2001) 27, 131-138.

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