



Case Report: Gingiva Hyperplasia Caused by Amlodipine

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Abstract

Calcium channel blockers are first-line therapy agents commonly used in the treatment of hypertension. According to studies, the incidence of gingival hyperplasia in non-dihydropyridine group calcium channel blockers is approximately 38%. The prevalence of gingival hyperplasia of nifedipine, amlodipine and diltizem, which are commonly used calcium channel blockers, was found to be 20%, 2.5% and 74%, respectively. Although gingival hyperplasia due to amlodipine is rare, it has taken its place in the literature. In this case report, we aimed to present our patient who developed a rare gingival hyperplasia due to amlodipine.

Keywords: Calcium channel blocker; Amlodipine; Gingival hyperplasia

Introduction

Hypertension is a common problem today. Calcium channel blockers appear as antihypertensive agents that can be used safely in patients with advanced age and a history of renal failure. The widespread use of these drug groups causes us to encounter many side effects. Undesirable side effects such as peripheral edema, heart failure, pulmonary edema, flushing, dizziness, headache, drowsiness, skin rash, nausea, abdominal pain, gingival hyperplasia, constipation may be seen due to calcium channel blockers. Because of these side effects, many patients interrupt the treatment or terminate the drug treatment. Amlodipine is a second generation dihydropyridine calcium channel blocker that may rarely cause gingival hyperplasia. In our literature review, the prevalence of gingival hyperplasia secondary to amlodipine use was shown to be between 1.7% and 3.3%. It is seen 3.3 times more in men than in gender.

Case Report

A 61-year-old female patient has the only known diagnosis of hypertension. The patient is followed under antihypertensive treatment in our cardiology outpatient clinic and her blood pressure is regulated. While she was routinely using a combined drug of 300 mg irbesartan and 10 mg amlodipine once a day, she was referred to our cardiology outpatient clinic with a preliminary

diagnosis of gingival hyperplasia. Cardiovascular system examination was performed. Patient's blood pressure: 125/80 mmHg Heart rate: 72 bpm in room air SpO₂: 96%. On physical examination, heart sounds were rhythmic and no additional sounds or murmurs were heard. No rales, rhonchi and pathological sounds were detected in the lung examination. In the lower extremity examination, pretibial edema was not observed and there was no cyanosis.

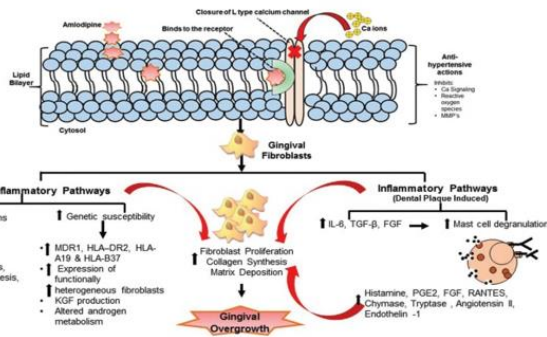
A 12-lead electrocardiography was observed in sinus rhythm. In our echocardiographic examination, no pathological finding other than left ventricular hypertrophy was found. When the current agents used by the patient were examined, it was determined that she used a combined treatment containing amlodipine. The irbesartan / amlodipine combination drug in her current treatment was discontinued. Strict dietary advice and blood pressure monitoring were recommended at least 2 days a week. Combination therapy containing amlodipine was changed to a hydrochlorthiazide group combination and amlodipine was removed. The patient was followed closely and her blood pressure was regulated. In the examination 3 months later, the patient's gingival hyperplasia regressed. At the 6th month examination, it was observed that the gingival hyperplasia disappeared completely (Figure 1).

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Discussion

Today, gingival hyperplasia due to calcium channel blockers is observed. Although cases related to nifedipine, which is usually one of the first molecules, have been reported, it can also develop against other agents. Amlodipine-induced gingival hyperplasia has been reported in many case reports and case reports. As with some other calcium channel blockers, there are several theories regarding the pathogenesis, mechanism, and molecular aspects of amlodipine-associated gingival hyperplasia. These studies and theories contradict each other. There is a study completed in 2019 and the results of which were published to determine the effect of amlodipine against the fibrotic response. In this study, fibroblasts obtained from cell lines were incubated with amlodipine. The gene expression levels of 12 genes belonging to the “Extra Cellular Matrix and Adhesion Molecules” pathway in real-time PCR-derived fibroblast cell culture were investigated by comparing them with untreated cells. The results suggest that amlodipine has an effect on the extracellular matrix of the gingival fibroblast. Gingival hyperplasia can have many causes. One of the most common of these is drug use. The three main drugs that cause gingival enlargement are; anticonvulsants, immunosuppressants and antihypertensives. Gingival enlargement due to the use of amlodipine was first reported in 1994. Gingival enlargement manifests itself as a side effect 1-3 months after amlodipine administration. In another study and case report, its relationship with MDR1 gene polymorphism was tried to be revealed. Gingival hyperplasia due to amlodipine is more common in patients with MDR1 polymorphism.

Conclusion

Although not as much as some other calcium channel blockers, gingival hyperplasia may occur due to amlodipine. In the literature, gingival hyperplasia due to amlodipine has been mentioned in several cases and case reports. As a result, gingival hyperplasia caused by certain drugs, including amlodipine, may occur, especially in those with a genetic predisposition. The only known treatment is known as drug discontinuation. As mentioned, there is no clear explanation, although there are several theories about the mechanism. In this case report, we present our patient who developed gingival hyperplasia due to the use of a combined drug containing amlodipine, one of the calcium channel blockers.

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