




Drug-induced gum hypertrophy: A case report

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ABSTRACT

Amlodipine is a common drug used to treat hypertension and is generally considered safe. The potential of amlodipine-induced gum hypertrophy was a rare occurrence. We described a 66-year-old woman who developed gum hypertrophy after taking amlodipine for eight months. The patient reported tenderness and difficulty maintaining her oral hygiene, and physical examination revealed an overgrowth of gum tissue around her teeth. The drug was discontinued, and the gum hypertrophy improved within two weeks along with the maintenance of oral hygiene. Therefore, we concluded she had gum or gingival hypertrophy as an adverse reaction to amlodipine.

Keywords: amlodipine, anti-hypertensive agent, gingiva, gingival hypertrophy, hypertension

INTRODUCTION

The term “gingival enlargement” refers to the abnormal proliferation of gum tissues, commonly referred to as “gingival hyperplasia” or “hypertrophy.” There are multiple causes of this [1]. One of the culprits is drug-induced. Anticonvulsants, immunosuppressants, and calcium channel blockers (CCB) are three classes of drugs that are most associated with the side effects of drug-induced gum hypertrophy [2].

Since hypertension is one of the common chronic diseases in Malaysia, more patients are taking antihypertensive medications, especially CCB such as amlodipine or felodipine. Amlodipine is a medication commonly prescribed for treating hypertension or high blood pressure. It belongs to a class of drugs known as CCB, which work by relaxing the blood vessels and improving blood flow. While amlodipine is generally considered safe and effective, there are some potential side effects associated with its use. One such side effect is gum hyperplasia, which is an abnormal overgrowth of gum tissue [3].

According to one study done in Malaysia, patients with hypertension who are using CCB frequently experience medication-induced gum hypertrophy [2]. The pathogenesis of how these drugs can induce gum hypertrophy is poorly understood. They concluded that CCB blocks intracellular calcium uptake thus stimulating gum fibroblasts. However, not every patient taking the same medication experiences gum hypertrophy. Somehow, certain patients have fibroblasts that have abnormal susceptibility to the drug. When exposed to the drugs, this fibroblast will cause synergistic enhancement of collagenous protein synthesis. Cytokines such as interleukin-6, and interleukin-1 β also play a role in gum hypertrophy induced by CCB [3]. Other than that, present dental plaque and calculus can be one of the important risk factors for drug-induced gum hypertrophy [4].

Gum hypertrophy if left untreated, may result in bleeding, infection, abscess and functional problems such as trouble chewing or talking. Treatment of drug-induced gum hypertrophy includes cessation of the offending drug and oral hygiene. In addition, the affecting drug should be replaced with another agent [5]. If it is severe, the patient may need a gingivectomy which is an excision of excessive gum tissue [6]. Therefore, physicians need to be aware of possible unwanted side effects of drugs and be able to recognize this condition to prevent deterioration.

CASE REPORT

Mrs. MN, a 66-year-old woman, presented with a history of gum swelling for the last five months. The patient first noted nodular growth over the upper gums which progressively enlarged to the present size and became generalized, making it difficult for her to clean her teeth and to eat.

MN has been having hypertension in the last five years and was under medication tablet perindopril 8 mg once daily until her physician noted that the blood pressure was uncontrolled. Tablet amlodipine 5 mg was added for optimization of MN's blood pressure eight months ago.

On general examination, MN was moderately built and well-nourished. There were no signs of anemia and not jaundice. Her blood pressure was 135/79 mmHg, and her pulse rate was 66 beats per minute. Intraoral examination was a bit difficult; there was a limitation to opening her mouth due to gum discomfort. Oral hygiene was fair with halitosis. No ulcer or candidiasis seen. There were diffuse gum enlargement and firm overgrowth of the upper gum (**Figure 1**, **Figure 2**, and **Figure 3**). They were pink, firm, non-tender, and did not bleed upon probing.



Figure 1. Pre-intervention: Anterior view shows overgrowth of the upper gum, had difficulty when want to check the intraoral examination (reprinted with permission of patient)



Figure 4. Post-intervention: Anterior view shows improvement of upper gum, intraoral examination much easier (reprinted with permission of patient)



Figure 2. Lateral view from the right side shows the extension of the overgrowth of the upper gum (reprinted with permission of patient)



Figure 5. Post-intervention: Lateral view from the left side shows the improvement of the gum overgrowth (reprinted with permission of patient)



Figure 3. Pre-intervention: Lateral view from the left side shows the extension of the overgrowth of the upper gum (reprinted with permission of patient)

Subsequently, tablet amlodipine was off and tablet Indapamide 1.5 mg was started once daily. After two weeks of drug change along with a scaling session with a dentist, her

overall condition improved; gum swelling reduced (**Figure 4** and **Figure 5**), and halitosis was gone since she could clean her teeth properly. MN was also being referred to the periodontics department for further assessment and treatment. They offered her a gingivectomy, however she refused.

In terms of her hypertensive control, her blood pressure after switching to Indapamide is well controlled, ranging between 125 to 130 mmHg for systolic and 62 to 70 mmHg for diastolic. Correlating history and clinical examination, a final diagnosis of amlodipine-induced gum hypertrophy was made

DISCUSSION

The most frequent cause of gum hypertrophy is drugs. Patients on CCB, immunosuppressants, or anticonvulsants may experience the adverse effect known as drug-induced gum overgrowth. It is linked to existing plaque or gingival inflammation as well as the patient's hereditary predisposition [7].

Amlodipine is one of the drugs in CCB agents that can be used to treat hypertension. The prevalence of gum hypertrophy due to amlodipine is between 1.7 to 3.3 percent [8]. In this patient's case, she was having drug-induced gum

hypertrophy after she consumed amlodipine 5 mg OD for her hypertension. Usually, it becomes apparent one to three months after initiation of the drug [9]. The symptoms of gum enlargement were noticed by MN after three months of consuming amlodipine.

She was unaware that the antihypertensive drug could cause gum hypertrophy since it was not mentioned to her earlier. She thought it would improve as time went by, but unfortunately, it worsened. She claimed that initially, it was just a feeling of gum discomfort and later it affected her mastication, and she was unable to brush her teeth properly too. Usually, the presentations of drug-induced gum hypertrophy are gum is pink, firm, thickened and lobulated as mentioned in this case. Other than that, if it is due to inflammatory gum hypertrophy, it would clinically appear differently which; is friable, soft, and bleed easily [10].

Amlodipine is frequently prescribed medication for hypertension in family practice, therefore every doctor should be aware of this typically disregarded but potentially serious side effect, especially if symptoms appear while taking the medication [6]. The best course of action for medically caused gum hypertrophy would be to stop using the related drugs. After discontinuation of the offending drugs, regression of gum overgrowth has been demonstrated [9]. As in this case, the oral hygiene was fair. Poor oral hygiene is one of the risk factors for drug-induced gum hypertrophy. Other than a change of anti-hypertensive medication by our team, treatment by addressing oral hygiene is important for a good prognosis [4]. Therefore, as we can see our patient's gum hypertrophy regressed after the amlodipine was replaced by tablet indapamide 1.5 mg daily and with dental inputs and good oral hygiene.

This case highlights the significance of recognition of these symptoms so that hypertension can be treated appropriately with appropriate alternative medications and the offending drug can be stopped as soon as possible. Because this drug is commonly used, and this symptom is often overlooked, we are presenting this case so that physicians will be aware of it [7].

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