

**A CASE STUDY OF AMLODIPINE BESYLATE INDUCED DOSE DEPENDENT DRY
COUGH**

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Summary

Calcium channel blockers are used as prime line therapy for hypertension treatment. In the following case report, the incidence of dosage related dry cough in geriatric patients was reported with Amlodipine besylate formulation.

Keywords: Amlodipine besylate, Dry cough, Dose dependence.

Introduction

Calcium channel blockers are the first line drugs used for the treatment of hypertension along with other agents like diuretics etc: These drugs act mainly by blocking the peripheral calcium channels in the vasculature and there by reduce the blood pressure by vasodilation means^[1,4]. Out of all calcium channel blockers available to date, Amlodipine besylate is most commonly used in patients with high blood pressure as it has been shown to possess an edge over other agents like Nifedipine, Nimodipine. Apart from its use as an effective antihypertensive it also posses antihyperlipidemic effect among a wide range of other effects². It is also shown to reverse the damage in ischemic hearts by increasing the coronary blood flow via both nitric oxide and adenosine dependent mechanisms^[2].

Case report

Now the following case study presents the fact that Amlodipine causes a dose dependent incidence of dry cough in Geriatric patients. Few studies have reported Amlodipine when used at a dose of 5 mg to produce cough but there is no certainty regarding the patient's category. Since Amlodipine is widely used, we feel that this case is worth reporting^[3,4].

A 75-year old woman who was diagnosed with persistent hypertension was advised to start Amlodipine besylate of a reputed manufacturer at a dose of 5 mg orally, daily with salt restriction. The patient had no history of smoking, alcohol consumption, and any other associated underlying pathology. But she was kept on treatment for arthritis for which she was advised to take Aceclofenac as a medicament along with several other substitutes like chondrotin sulfate, which help in the formation of collagen in the damaged area. Within the second week of initiation of therapy, she started to complain severe, dry irritating cough. There was no such incident in the past and no history of allergy either.

Clinical examinations revealed a clear chest and there were absolutely no signs of any infection, bronchitis, pulmonary tuberculosis or sinusitis. There were no symptoms of gastro esophageal reflux either and all blood parameters are normal.

On noting the despair of the patient, she was advised to take amlodipine at a dose of 2.5 mg orally. Surprisingly the cough subsided, and she began to recover within 3 days of the start of the adjusted dose. Further rechallenge of the patient was not done in the interest of the patient and on ethical basis. Thus the dose dependent appearance of cough in the patient could not be ascertained to a concurrent disease or any treatment and decrease in the dose of the drug improved the condition of the patient. Hence this adverse drug event (ADR) can be labeled as “likely” in geriatrics and since it was dose dependent and unpredictable, it could be labeled as TYPE-I class of ADR ^[5].

Conclusion

Since Calcium channel blockers are not known to produce cough, this case was unusual and unexpected. The mechanism of this type of the cough is unclear and further studies are required in this regard to elucidate the mechanism. So it becomes important for physicians prescribing 5 mg dose of amlodipine besylate to advise the patients regarding side effects and warn them.

References

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