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Evaluation of the Prevalence of Amlodipine-associated Oedema in Patients with Cardiovascular Diseases at Princess Margaret Hospital (PMH)

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Introduction

Peripheral oedema has been reported to be the most common adverse effect associated with Amlodipine and the incidents of adverse effect have been shown to be lower with concurrent use of angiotensin-converting enzyme inhibitor (ACEI)/ angiotensin receptor blocker (ARB).

Objectives

The current study aimed to evaluate the prevalence of Amlodipine-associated oedema in Chinese patients with cardiovascular diseases at a local hospital between January 2014 and December 2014. It was hypothesized that the prevalence of Amlodipine-associated oedema would be lower in Amlodipine/ARB combination group than Amlodipine alone. The interventions employed to manage Amlodipine-associated oedema were also qualitatively studied.

Methodology

Chinese patients with cardiovascular diseases attending Cardiology Specialist Outpatient Clinic (SOPC) at PMH between January 2014 and December 2014 were evaluated. Male and female patients aged 18 years or above, who were taking Amlodipine (without ACEIs/ARBs) or Amlodipine/Valsartan were included in this retrospective study. Patients with a history of chronic heart failure, recent myocardial infarction (in preceding 6 months), deep vein thrombosis, peripheral vascular disease, end-stage renal failure, abnormal liver function (ALT/ALP > 2 x ULN) and pregnant or lactating women were excluded. Any documentation of Amlodipine-associated oedema in the narrative consultation notes or the Clinical Management System (CMS) record was considered as an episode and included for data analysis. The prevalence of peripheral oedema among Amlodipine-alone group was compared to that in Amlodipine/Valsartan group using chi-square statistical test.

Result

283 and 109 patients were included in the Amlodipine-alone and Amlodipine/Valsartan group respectively for analysis. The prevalence of peripheral oedema in Amlodipine-alone group was 6.0% compared to 0.9% of patients taking Amlodipine/Valsartan. The difference, however, was not statistically significant. Neither Amlodipine dosage nor duration of therapy showed an association with the prevalence of peripheral oedema in this study. Among the 17 cases presenting with peripheral oedema in the Amlodipine-alone group, intervention strategies included addition of diuretics, Amlodipine dose reduction and switch over to other antihypertensive agents.