Prevalence of simvastatin associated muscle symptoms among hypercholesterolemic patients receiving simvastatin and amlodipine of Kuala Muda District Kedah: A cross-sectional multicentre study

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ABSTRACT

Introduction: Simvastatin is generally safe with rare adverse drug effects such as statin associated muscle symptoms (SAMS) but risk of SAMS increases following combination with amlodipine. This study was aimed to investigate the prevalence of simvastatin and amlodipine combination, prevalence and predictor of SAMS and also to determine the most prominent muscle complaint in patient having SAMS in Kuala Muda. **Methods:** This was a cross-sectional multicentre study (2 phases). Retrospective data (Phase 1) of patient receiving amlodipine and simvastatin being collected for a year of 2019 using Pharmacy Information System (PhIS) before being analyzed using Microsoft excel for prevalence of the combination. Phase 2 (prospective) patients being selected using stratified systematic convenient sampling before verbally interviewed for muscle complaint and demographic data. All patients with muscle complaint were exposed to drug interaction probability scale and muscle questionnaire for determination of SAMS. **Results:** Prevalence of the combination in Kuala Muda was 56.7% (n=20719/36625) and prevalence of SAMS was 15.0% (n=29/195). Significant predictors of SAMS were dosage category (p=0.02, 2 times higher in combination with simvastatin more than 20mg/day) and also smoking status (p=0.04, 3 times higher in smoker). Most patients with SAMS will have nocturnal cramping at thigh calves which started at 3 to 12 months after being prescribed with the combination. The prevalence of patients on amlodipine and simvastatin combination in Kuala Muda was 56.57% and prevalence of SAMS was 15.0%. **Conclusion:** Risk of SAMS increases in smoker and combination with simvastatin more than 20mg/day. The most prominent muscle complaint in patients with SAMS was nocturnal cramping at thigh calves