Service Priorities and Programmes

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Early and effective identification of high cardiovascular risk amongst osteoporotic patients treated with Strontium Ralenate using an advanced triaging system

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Introduction

The Advanced Osteoporosis Triaging System (AOTS) has been shown to improve the service to patients newly referred for osteoporosis treatment. In 2013, The European Medicines Agency (EMA) recommended a restriction in the use of Strontium Ranelate, an anti-osteoporotic agent, following data showing an increased risk of serious myocardial infarction. The AOTS model was applied to risk-stratify all patients taking Strontium Ranelate for the necessity of early medical attention.

Objectives

To evaluate the effectiveness of the AOTS model in patient management secondary to newly identified side effects of drugs.

Methodology

All patients taking Strontium Ranelate in Osteoporosis Clinic were assessed and triaged by an experienced nurse, the osteoporosis case manager, to High-risk, Low-risk and indeterminate group, based on a clinical management protocol. Patients with documented history of stroke, angina, ischemic heart disease, peripheral arterial disease, or hypertension requiring multiple drugs, were triaged as high-risk and ad-hoc outpatient appointments were offered. Suspected cases without clear documentation of the aforementioned diseases were considered indeterminate and sent for re-triaging by an endocrinologist. Low-risk subjects with none of the above diseases kept their original follow-up appointment. The time to the ad-hoc medical consultation for the High-risk group were compared with the waiting time of their own

scheduled follow- up, and that of the low-risk patients. Cardiovascular events and fracture of the subjects were monitored and compared.

Result

139 patients (133 female, mean age 78±9 years) were put on Strontium with a mean duration of 24±19 months. 41 (29%) of them were triaged to High-risk group (Cerebrovascular diseases: n=20; ischemic heart disease: n=19; peripheral arterial disease: n=2), hence only 41 extra outpatient appointments were necessary. The waiting time for medical attendance of the high-risk group was shortened (6±3 vs.16±9 weeks, $p<0.05$) and was shorter than the low-risk group (6±3 vs 16±8 weeks, $p<0.001$). All of them had Strontium Ranelate discontinued after medical consultation and alternative anti-osteoporosis medications were commenced. After a period of 17±2 months, 7 (0.5%) patients had new fracture (High-risk: 2, low-risk: 5, $p=0.95$) and 4 (0.3%) patients developed cardiovascular events (High-risk: 4, low-risk: 0, $p=0.002$). The ATOS functioned well in identifying and stratifying patients according to their risk for further clinical management. Early medical attention was arranged for the high-risk patients identified and all of them had already been assessed by physicians long before EMA announced their final recommendations. No extra intervention was necessary in the low-risk patients and none of them developed cardiovascular events.