Comparative Cardiovascular Safety of Strontium Ranelate and Bisphosphonates Amongst Patients with No Contraindications: a Multidatabase Study in our European Countries by the EU-ADR Alliance

M. Sanni Ali[1], Klára Berencsi[2], Karine Marinier[3], Nicolas Deltour[3], Samuel Hawley[1], Lars Pedersen[2], Peter Rijnbeek[4], R.G. Duijnhoven[4], Johan Van der Lei[4], Francesco Lappi[5], Monica Simonetti[5], Cristina Reyes-Reyes[6], Miriam Sturkenboom[4] and Daniel Prieto-Alhambra[1,6]

[1]University of Oxford, Oxford, United Kingdom.

[2]Aarhus University, Aarhus, Denmark.

[3]Laboratoires Servier, Suresnes, France.

[4]Erasmus MC Medical Centre, Rotterdam, Netherlands.

[5]Italian College of General Practitioners and Primary Care, Florence, Italy.

[6]Universitat Autonoma de Barcelona and Instituto de Salud Carlos III, Barcelona, Spain.

Background: Concerns on strontium ranelate (SR) cardiovascular safety have led to new contraindications and restricted use. However, evidence on the safety of SR compared to oral bisphosphonates (BP) in the new target population (with none of the contraindications) is scarce.

Objectives: To compare the risk of cardiac and thromboembolic events between new users of SR and oral BPs without contra-indications for SR.

Methods: We conducted two multinational, multidatabase (Aarhus Denmark, HSD Italy, SIDIAP Spain, and THIN UK), non-interventional nested case-control studies. Within a cohort of new users of SR or BP and with no contraindications for SR use, we matched cases of (1) Acute myocardial infarction, AMI, and (2) Venous Thromboembolism, VTE, to 10 controls on gender, year of birth, index date and country (database). Conditional logistic regression was used to estimate odds ratios and 95% confidence intervals (CIs) according to current SR (vs current BP) use, adjusting for potential confounders, within each database. Data were pooled using two stage (random effects) and one stage pooling (analysing all matched sets together).