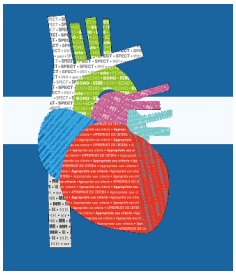

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Safe Adverse Events Profile of Regadenoson in Patients with Stable Severe Chronic Obstructive Pulmonary Disease

Background: Regadenoson (REG), a selective agonist of A2A adenosine receptors, has a much lower risk of bronchoconstriction when compared to adenosine, due to negligible activity through the A2B and A3 receptors. Several studies support the use of REG in patients with mild to moderate chronic obstructive pulmonary disease (COPD). In addition, the combination of low-level exercise during administration of REG has been shown to be safe with a significant improvement in the adverse events profile together with a higher image quality.
We aim to assess the safety of REG, combined with low-level exercise in subjects with severe COPD, referred for myocardial perfusion imaging (MPI).

Methodology: We studied prospectively 14 patients (13 male, age 70 ± 6 years) with severe COPD without any of the exclusion criteria (active wheezing and oral corticosteroid therapy for pulmonary disease). Stress was 4 minutes of low-level exercise with bolus injection of REG (0.4 mg) at 1.5 minutes, followed by saline flush and 99mTc-MPI agent injection and a new saline flush. Demographics, medical history, adverse events, oxygen saturation (SatO2), changes in systolic blood pressure (SBP), and heart rate (HR), were registered.

RESULTS: The observed adverse events profile of REG was similar to that of patients with mild-moderate COPD. There was no clinical exacerbation of COPD, and SatO2 did not change from baseline (96% vs 96%). Adverse events were self-limiting: dyspnea (35.7%), fatigue (28.6%), chest pain, headache, gastrointestinal discomfort, and feeling hot (21.4% respectively), dizziness (14.3%), dry mouth and flushing (7.1%, respectively). 21.4% of patients did not report any symptom. We observed significant increases in SBP and HR from baseline (141.4 mmHg ± 20.2 vs 152.5 mmHg ± 18.5, and 81 b.p.m. ± 19 vs 107 b.p.m. ± 22, respectively; $p<0.05$).

CONCLUSION: Regadenoson combined with low-level exercise is safe and well tolerated in stable patients with severe COPD undergoing MPI.

Country/Organization invited to participate

Spain/Member states experience with nuclear cardiology (SPECT, PET)

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