

## ABSTRACT

**Objective:** Exercise stress test (EST) is one of the main diagnostic and prognostic tests for ischemic heart disease. However, its usefulness depends on achieving target heart rate, and then chronotropic incompetence and poor exercise capacity limits its utility. We evaluated the usefulness and accuracy of atropine administration during the EST to decrease the number of tests with inconclusive results in these patients.

**Methods:** We carried out this study in critical care department at Kasr Elainy Hospital and Medical Center in Cairo, a tertiary teaching center .Out of 180 patients who preformed stress ECG in the critical care department in Cairo University Hospital from September 2009 to August 2010; Only 30 patients met the inclusion criteria and enrolled into the study. In subjects experiencing fatigue when they achieved 50-75% of target heart rate (THR), atropine was administered in doses of 0.5 mg per minute until the test conclusion (positive test results or target heart rate achieved) or until a maximum dose of 2 mg was administered.

The Borg scale for perceived exertion, with scores ranging from 0 (no exertion at all) to 10 (very strong exertion) is used during the test.

All Patients will be subjected to radionuclide Myocardial perfusion imaging and if available coronary angiography to confirm accuracy.

**Results:** Thirty patients required atropine (mean dose:  $0.76\pm 0.34$  mg) during the study. Among patients who received atropine, conclusive test was achieved in 29 cases (97%). Atropine administration resulted in an increase in heart rate by 86% of the resting heart rate with minor side effects.

**Conclusion:** Use of atropine as an adjunct to standard EST can help decrease the number of inconclusive tests. Larger studies are necessary to define the role of atropine in EST and also to evaluate the accuracy of conclusive EST after atropine administration using coronary angiography for all patients enrolled in the study.

**Key words:** *stress ECG , atropine, chronotropic incompetence.*