Atropine Injection: Simple and Cheap Tool for Increasing Conclusive Exercise Stress Tests

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Background
Treadmill stress test is the most useful tool for assessing patients with chest pain. However, significant percentages of the patients do not achieve a target heart rate.
We evaluated the administration of atropine in order to increase the number of tests with conclusive results.

Methods
Seventy patients (20 females and 50 males, mean age 50.2 ±10.6) hospitalized due to chest pain were referred for a treadmill stress test.
All patients were eligible for the use of atropine. Patients who experienced fatigue, shortness of breath or leg pain during sub maximal heart rate, were given intra venous atropine in doses of 0.5 mg/min until a test conclusion (target heart rate or positive test) or until a maximal dose of 2 mg.

Results
Twenty patients (28.5%) required atropine, with a mean dose1.3mg, nine patients (45%) achieved target heart rate, three of them had a positive test. The mean increase in heart rate after atropine administration was 27.25 beats per minute. This management increased the number of conclusive tests from 50 (71%) to 59 (84%).
Inability to reach target heart rate was attributed to chronotropic incompetence and low work capacity. Frequent complaints after atropine injection were transient dizziness and dry mouth, without any serious events.

Conclusions
1- Atropine administration is a safe and potential useful in patients who can not achieve target heart rate during treadmill stress test.
2- The use of atropine during exercise test can help to increase the number of conclusive tests by a cheap rapid and safe manner.