

The usefulness of dipyridamole stress echocardiography in high-risk patients before abdominal aneurism surgery

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Background: Coronary artery disease (CAD) and aortic aneurysm (AA) share common risk factors, such as hypertension, diabetes mellitus, hypercholesterolemia, and smoking. Cardiac assessment before aortic abdominal aneurysm (AAA) surgery is indicated for patients with symptomatic coronary artery disease (CAD). The usefulness of assessment of moderate/high-risk patients is still debated.

Purpose: the purpose of our study is to evaluate the safety and effectiveness of dipyridamole stress echocardiography (DSE) for the detection of CAD in patients undergoing AAA surgery with high cardiovascular risk.

Methods: From 2017th to 2019th 120 patients underwent surgery for aortic aneurysm (71 endovascular technique and 49 with open laparotomy).

Of these, 74 asymptomatic patients with high cardiovascular risk underwent a pre-surgical contrast-enhanced dipyridamole stress echo (0,84 mg/kg over 6 minutes – protocol with LVO with sulfur hexafluoride), to exclude the presence of inducible myocardial ischemia, Mean follow-up was 6-24 months.

Results: Mean age was 77 years +/- 6.6, with male gender prevalent (83%). No complication during DSE occurred; mean SCORE risk was 9.8% +/- 2.3%, with 63% patients with very high risk. Only 1 patient showed inducible ischemia during stress echocardiography, with evidence of significant LAD stenosis; no myocardial infarction was reported at follow-up, while 1 ischemic stroke and 1 unplanned revascularization occurred.

11% of patients died, of which 50% for Sars-Cov-2 disease and 12% due to post-surgery dissection while no cardiac deaths were found.

Conclusions: dipyridamole stress echo is safe in patients with surgical-class abdominal aortic aneurism; in patients with high cardiovascular risk but no symptoms reversible ischemia is rare. DSE should not be routinely performed before high-risk surgery but only in patients with cardiac symptoms.

Abstract Figure. Patients Diagram

