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### **DOBUTAMINE (DOB) STRESS MIBI-SPECT (MS) AND TWO-DIMENSIONAL ECHOCARDIOGRAPHY (2DE) IN CORONARY ARTERY DISEASE (CAD)**

This study examined the feasibility and the potential usefulness of performing simultaneously MS and 2DE by using a DOB infusion stress to detect and locate CAD.

64 consecutive patients with documented coronary angiography (CA), 26 of them with a history of recent or previous myocardial infarction (MI) and 14 "controls" were included. 7 angiograms were considered either normal or with non significant stenosis.

Echocardiograms were analyzed in basal state and during DOB infusion at increasing doses up to 40 µg/kg/min, ECG and blood pressure being continuously monitored. Patients were injected with 740 MBq MIBI-Tc-99m at the end of the 2-DE test.

In patients with CAD and without MI ( $N=31$ ), the sensitivity was 87% for MS and 81% for 2-DE. In controls and cases with normal CA, the specificity of MS and 2-DE was 81% and 90% respectively.

Both methods, but particularly 2DE, showed lower sensitivity in identifying individual vessels involved: 77% and 59% for LAD, 60% and 40% for LCx and 68% and 47% for RCA, but higher

specificity : 78% and 84% for LAD, 97% and 100% for LCx and 97% and 93% for RCA by MS and 2 DE respectively.

In patients with MI without multivessel CAD, a residual ischemia was falsely evidenced by MS in 2/18 patients (specificity: 90%) and a false positive response was observed outside the infarct zone by 2-DE in 1/20 patients (specificity: 95%). The area of necrosis was identically well located by both techniques in all cases. The identification of multivessel CAD was observed in 4/5 patients by MS and 1/5 patients by 2-DE.

In conclusion, DOB stress testing at increasing doses is a feasible and well tolerated stress in any condition. It has some potential advantages over currently used non invasive stress testing methods, particularly in patients with MI. Combining the informations of both 2-DE and MS tests, performed under the same pharmacological intervention, allows an improved efficiency in detection of ischemia.

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