



Non Invasive Imaging

ACCELERATED DOBUTAMINE STRESS ECHOCARDIOGRAPHY: FEASIBILITY AND PROGNOSTIC VALUE COMPARED TO STANDARD DOBUTAMINE STRESS ECHOCARDIOGRAPHY

Poster Contributions

Hall C

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Background: Dobutamine stress echocardiography (DSE) is routinely performed using stepwise increments at 3 minute intervals. The feasibility and more importantly prognostic value of a accelerated DSE (ADSE) with a high dose 50 mcg/kg/min starting continuous dobutamine infusion has not been well studied. This study evaluated a large cohort of patients undergoing ADSE and assessed outcomes of mortality of a normal ADSE vs DSE.

Methods: 463 consecutive patients underwent ADSE using a constant infusion of 50 µg/kg/min for 10 minutes (cases). Atropine was given if target heart rate (THR) was not achieved at 10 minutes of infusion. Hemodynamic responses and adverse effect profile were compared with 461 patients who underwent a standard DSE (controls). All patients were followed up for a mean period of 3 years. Total mortality and other endpoints were evaluated.

Results: Mean age was 62.9 ± 11.8 years for cases vs 62.3 ± 11.8 years for controls (p=0.4). More patients in the control group had history of CAD (13% vs 4%, p<0.001), MI (12% vs 2%, p<0.001) and CHF (7% vs 1%, p<0.001). Target heart rate was achieved in 384 (83%) of cases compared to 355 (77%) controls (p<0.026). This was despite higher use of atropine in controls 58% vs 18% in cases (p<0.001). Time to target heart rate was shorter in the accelerated group 7.3 ± 3.8 vs 10.4 ± 3.3 min (p <0.001) which translated into substantial reduction in test duration and with no major complications like MI or CHF or hospital admission in patients who underwent ADSE. Kaplan-Meier survival curves showed a statistically significant survival difference between the two study groups with standard DSE patients having a worse overall survival than the ADSE groups likely related to greater prevalence of underlying co-morbidities (p<0.001). The overall freedom from death of a normal ADSE over a 36 month period was excellent with 98% survival attesting to the ability of ADSE to predict favorable outcomes.

Conclusions: ADSE is a feasible, well tolerated alternative to standard DSE and results in a substantial reduction in test time while maintaining a low complication rate. A normal ADSE predicts excellent outcomes and hence ADSE can be used interchangeable for DSE in properly selected patients.