

Real Time Supine Bicycle Exercise Echocardiography Improve Assessment of the Cardiac Patient

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Background:

Most laboratories in Israel use the post-treadmill approach with imaging at rest and as soon as possible during the recovery period. In our Center we have implemented dedicated bed allowing bicycle exercise echocardiography (BEE) in a supine position and real-time imaging throughout exercise. The incorporation of five stages baseline, low, intermediate and peak and recovery could improve the accuracy of the method in respect of the post treadmill approach

Methods:

Exercise echocardiography was performed in 75 patients (mean age 53 ± 13 years, 51 men), 10 of whom underwent coronary angiography. The BEE protocol started at 25 Watt with increments of 25 W every 3-min stage.

Images were recorded at rest, 25 W, 100W, and peak exercise. We examined the response to exercise of pulmonary artery pressure (PAP), severity of mitral regurgitation (MR) during the exercise.

Results:

75 % of patients completed the exercise protocol, 25% of the patients did not reach the target heart rate and were switched to echodobutamine test. During the exercise in 2 cases we observed an increase in PAP and in 2 other cases there was a rise in severity of MR. 1 patient we observed LV dilatation at peak exercise that could be missed in the regular post treadmill echocardiography, and at angiography reveal left main and triple vessel disease. In all the subjects we did not observe any arrhythmia, the recovery time was extremely shorter (2 minutes) than the echodobutamine test (7minutes). **Conclusions:** The BEE is easy, safe without any side effects. And give information in the intermediate and peak stages that can be missed by the regular post treadmill echocardiogram