

Great Lakes Heart Center of Alpena

Patient Education Handout

DOBUTAMINE ECHOCARDIOGRAPHY

Some patients who require stress testing are unable to exercise adequately due to back pain, lung disease, joint disease or an unsteady gait. In these situations, dobutamine echocardiography can be performed.

Dobutamine is a catecholamine type drug like epinephrine. When infused, dobutamine increases myocardial blood flow, heart rate and systolic blood pressure similar to that of exercise.

How It Is Done

The test is administered by a doctor and sonographer trained in echocardiography. The scanning itself is painless except for stinging or burning sensation discomfort when a needle is inserted into the vein. Lying still for an extended period of time on the table during the scans may also be uncomfortable.

In addition, possible symptoms from the administered drug include:

- dizziness
- headache
- low blood pressure
- shortness of breath
- flushing
- nausea
- chest pain
- EKG changes
- palpitations
- abnormal heart rhythms or arrhythmias

Resting study

- Wear loose clothing.
- Electrodes are attached to continuously monitor your ECG during exercise.
- The patient then lies on a table while an ultrasound probe is positioned over the chest.
- The patient has to remain very still during each scan.
- An initial set of images are then obtained.

Stress scan

- Dobutamine is infused at a starting dose of either 5 or 10 mcg/kg/minute for 3 minutes. The dose is then progressively increased in increments of 10 mcg/kg to a maximum of 40 mcg/kg/minute. If the target heart rate is not achieved up to 2 mg of atropine may also be administered. Alternatively the patient may be asked to perform isometric exercises.
- The patient's ECG, blood pressure and symptoms during infusion are carefully recorded.
- Infusion is continued until the patient feels the need to stop, the maximum heart rate is achieved or blood pressure or ECG abnormalities develop.
- Three additional sets of images are obtained during the various infusion stages.
- The patient is then given time to rest and recover.

- The entire test takes about 30 to 60 minutes, after which you can resume your normal activities.

Pharmacologic stress testing may be dangerous under the following circumstances:

- A recent or ongoing heart attack,
- Unstable angina,
- Uncontrolled or untreated arrhythmias,
- Uncontrolled high blood pressure,
- Severe aortic valve stenosis,
- Active myocarditis (an infection of the heart muscle), or endocarditis (an infection of the heart valves),
- Severe asthma or underlying lung disease
- Have severe anemia,
- If you have joint problems that limit your physical exercise.

How to prepare

- Do not eat or drink for at least 4 hours before a stress scan.
- Avoid alcohol, tobacco, caffeinated beverages and nonprescription medicines for at least 24 hours before the test.
- Drugs for erectile dysfunction such as Viagra must be stopped within the previous 48 hours.
- Ask your doctor whether you need to stop taking any of your other medicines before the test.
- Wear comfortable clothing.
- Remove all jewelry before the test.
- Talk to your doctor about any concerns you have regarding the need for the test, its risks, how it will be done, or what the results may indicate.
- Inform the doctor, nurse or sonographer if you are allergic to any medicines or anesthetics.
- Inform the doctor, nurse or sonographer if you are or might be pregnant.
- Inform the doctor, nurse or sonographer if you are breast-feeding.

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