Cardiovascular disease

Stress echo has good diagnostic accuracy in elderly patients

Stress echocardiography is a safe and effective first-line test for suspected coronary artery disease in patients over 80, a UK study, published in *Heart*, has found.

A total of 374 consecutive patients, 46% men, aged 83.6 (±3.0) years who underwent stress echo for evaluation of coronary artery disease were studied. The researchers looked at feasibility, diagnostic accuracy and safety of the test. Patients were followed up for 4.0 ± 2.0 years for all cause mortality, cardiovascular deaths and non-fatal myocardial infarction (MI).

The vast majority, 360 (96.2%) of the 374 tests, were diagnostic. There were 50 patients with inducible ischaemia of whom 33 (66%) proceeded to angiography. More than three-quarters, 27 (82%) of these patients had significant coronary artery disease.

During follow-up, there were 127 deaths (36%) and 36 non-fatal MIs (10%). Annualised mortality, non-fatal MI and combined mortality/non-fatal MI rates were 8.1%, 1.8% and 9.4% respectively for patients with a normal stress echo and 12.1%, 5.5% and 14.1% respectively for those with an abnormal stress echo.

The key predictors of non-fatal MI were:

- Prior coronary artery disease; HR 2.89 (95% CI: 1.03-8.15; P = 0.045)
- Peripheral vascular disease; HR 3.33 (95% CI: 1.18-9.45, P = 0.02)
- Inducible ischaemia on stress echo; HR 3.97 (95% CI: 1.49-10.55, P = 0.006).

The greater the extent of ischaemia, the higher the incidence of non-fatal MI.

There were no major complications during stess echo (i.e. no patients developed serious ventricular arrhythmias, acute MI or died).

Stress echo has established itself as the preferred initial diagnostic test for the investigation of chest pain where coronary artery disease is suspected. It has effectively superseded the exercise ECG/exercise tolerance test. The reasons for this include cost effectiveness, diagnostic accuracy, availability, lack of ionising radiation, patient tolerability and endorsement by guidelines and national bodies such as NICE. If additional roles such as assessing valve disease and myocardial viability are also considered then there would appear to be a clear role for stress echo for many years to come.

Prognostic value is an aspect of the test that can often be overlooked. This has been established in younger populations but it had been postulated that prognostic value may be less apparent in more elderly populations because of their shorter life expectancy and the presence of important comorbidities.

This study provides reassurance that stress echo is a safe and effective first-line test for suspected coronary artery disease in elderly populations.

The authors conclude: 'Stress echo had excellent feasibility and safety in the octogenerian population, and had excellent positive predictive value for flow-limiting coronary artery disease and influenced subsequent revascularsation.

'During long-term follow-up, stress echo parameters were the strongest independent predictors of non-fatal MI and cardiovascular events, and an abnormal stress echo was associated with a 50% increase in mortality.'

DR PETER SAVILL

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Addiction

Benzodiazepine and opioid co-prescribing raises risk of opioid overdose

Stopping concurrent benzodiazepine and opioid prescribing could reduce the risk of inpatient admissions for opioid overdose and attendance at emergency departments by 15%, a study from the US has found.

To assess trends in joint prescribing and their impact on hospital admissions and emergency room visits for opioid overdose, the researchers, analysed concurrent prescribing data for benzodiazepines and an opioid between 2001 and 2013. Health data were obtained from a large, broadly representative, privately insured population. Concurrent was defined as at least one day of overlap in the period covered by each prescription.

During the study period 315,428 patients in the sample population had received at least one prescription for an opioid medication. Of those prescribed an opioid, 5,425 out of 53,389 (9%) were also prescribed a benzodiazepine during 2001. This had risen to 14,415 out of 85,617 (17%) in 2013, an increase of 80%.

The increase was primarily within intermittent, rather than chronic, opioid users. In intermittent users, the percentage who also used a benzodiazepine rose from 7% to 13% over the study period.

Compared with opioid users who were not prescribed benzodiazepines concurrent use of both drugs was associated with double the risk of attending an emergency room, or being admitted, for opioid overdose

adjusted odds ratio (OR) 2.14 (95% CI: 2.05-2.24; P < 0.001). The adjusted OR for an emergency room visit or admission for opioid overdose was 1.42 (95% CI: 1.33-1.51; P < 0.001) for intermittent opioid users and 1.81 (95% CI: 1.67-1.96; P < 0.001) for regular opioid users.

This study has identified a sharp increase in concurrent benzodiazepine and opioid prescribing in the US between 2001 and 2013 in a representative population.

This increase may have contributed significantly to the risk of opioid overdose needing either emergency room attendance or hospital admission.

Assuming a causal relationship, the authors estimated that stopping concurrent benzodiazepine and opioid prescribing could reduce the risk of emergency room attendance and inpatient admissions for opioid overdose by 15% (95% CI: 14-16%).

Doctors are much more likely than they were to prescribe long-term opioid analgesics for non-cancer pain. In the US opioid prescriptions have increased almost three fold over the past 15 years and prescribing in the UK has also been increasing.[1]

Some fear an 'epidemic' of opioid prescribing in the UK to match the North American experience, with consequent increases in dependence and opioid-related overdoses and deaths.

Nearly 30% of fatal opioid overdoses in the US also involved benzodiazepine use, where the benzodiazepine may have potentiated the respiratory depression effect of the opioid.

The study authors conclude: 'Providers should exercise caution in prescribing opioids for patients who are already using benzodiazepines (or vice versa), even in a non-chronic setting. Indeed, we note that the association between concurrent benzodiazepine/opioid use and the risk of opioid overdose was broadly similar for both intermittent and chronic opioid users. Therefore, opioids should be prescribed cautiously – even if only for a short-term course – among patients who are also using benzodiazepines.'

'Healthcare providers might also want to implement education programs that warn prescribers and patients about the risks of taking benzodiazepines and opioids concurrently,' they add.

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