IHD Evaluation - Dr Kua Jieli

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How do we risk stratify patients for IHD evaluation? 00:58

- HEART Score: Used to decide on inpatient or outpatient evaluation
- Usually if trop and ECG negative, can be evaluated outpatient if concerned, can put patients on aspirin first

What are the different modalities for IHD evaluation? 02:30

- Aims of evaluation: Is IHD the cause of chest pain? Prognosticate patient's CV risk
- Pre-test probability determines whether to investigation, and investigation of choice If < 5% usually don't need further evaluation because of problems of false positives
- Types of Tests
 - Anatomical: CTCA, Coronary angiogram
 - Physiological/Stress: ECG (treadmill), Echocardiogram (treadmill, bicycle, dobutamine), nuclear/MPI (treadmill, dipyridamole, dobutamine), MRI (adenosine), invasive physiology (FFR, IFR, RFR, CFR)

How do we decide between the various test options? - Principles 7:05

- Treadmill is falling out of favour because of guidelines changes
- Treadmill is difficult to interpret when there are baseline ECG changes contraindicated if WPW, LVH, LBBB
- If you can run, then running should be the means of stressing because it is the most physiological
- If there already is known stenosis, CTCA is less useful Stress imaging for physiological response to stenosis would be more appropriate
- · In elderly patients (>65-70), calcium deposition may impair CTCA interpretation
- · CTCA is good for young patients because of its high negative predictive value, but expensive
- · Stress echocardiograms have long wait times
- MPI and CTCA are generally the favourites

MPI? 13:05

- · If asthmatic don't give dipyridamole, but can give dobutamine
- · If coffee and tea have been given, they can't be given dipyridamole but can still go for rest scan
- Avoid running with LBBB because of concerns of septal dropout
- · If beta blockers or non-dihydropyridine CCBs or ivabradine, then don't run
- Ask for history of theophylline use aminophylline which is the reversal drug for dipyridamole can potentiate theophylline toxicity
- Interpreting stress and rest scans
 - Defect on stress, but not on rest = ischemia
 - Defect on stress and on rest = infarction
 - If normal stress, generally don't need to do a rest scan
- · Different protocols exit depending on indication of evaluation

Stress Echocardiogram 18:25

- Need clear images to obtain RWMAs hence very big or skinny patients may not be the best candidates
- · Avoid dobutamine in patients with AF because they run the risk of tachyarrhythmias

<u>CTCA 19:40</u>

- Age cut off ~ 65yo
- · Good for ruling out significant CAD
- Aim to get heart rate low target < 70
- · Order beta blocker in the morning of procedure (+/- additional the night before)
- · Contraindicated in patients with renal impairment

Duration of 'validity' of tests? 20:58

- · CTCA: Validity 2-3 years
- \cdot ~ No clear evidence about 'validity' but maybe a ballpark figure of ~ 1 year
- But important to bear in mind that the various test modalities are not 100% accurate, if patients present recurrently with cardiac sounding chest pain, may be worthwhile changing investigation modality

Role for calcium scoring and hsCRP? 22:13

- Generally, for overall cardiovascular risk evaluation rather than IHD evaluation but utility of information is questionable
- · Could potentially guide indication for statins
- While in general a negative calcium score may suggest absence of calcium containing artherosclerotic plaques, there are non-calcium containing plaques too