Chest Pain

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Call for Help!!
57 year old male found deceased at home after presenting to ED with back/shoulder pain and tremor. Patient expressed concern about his heart and was already medicated for hypertension. Triage category 4 given. ACS not considered beyond initial ECG.

........diagnosed with anxiety/depression and discharged for follow-up by GP. PM showed AMI with moderate Left ventricular hypertrophy

Major Metropolitan Teaching Hospital
Failure to undertake appropriate investigations

Failure to interpret an ECG correctly

Delay or failure to notify consultant on call/in charge

No formal system for obtaining senior review of the ECG

Failure to review results prior to patient transfer or discharge

Failure to have chest pain pathway in place
Minimum standards were released as a Policy Directive

EVERY PATIENT, EVERY TIME
There is a lot to do with someone who has chest pain?
Certain findings raise suspicion of a more serious etiology of chest pain!!

- Abnormal vital signs (tachycardia, bradycardia, tachypnoea, hypotension)
- Signs of hypo-perfusion (e.g. confusion, ashen colour, diaphoresis, warmth)
- Shortness of breath
- Hypoxemia
- Asymmetric breath sounds or pulses
- New heart murmurs
- Pulsus paradoxus > 10 mmHg or distended JVP
Acute coronary syndromes (ACS)
Constellation of clinical symptoms compatible with acute myocardial ischaemia

Non-ST-elevation acute coronary syndromes
NSTE-ACS

Unstable angina
UA

Non-ST-elevation myocardial infarction
NSTEMI

ST-elevation myocardial infarction
STEMI

ACS Signs and Symptoms

Chest Pain....

Retrosternal chest pressure, burning, or heaviness; radiating occasionally to neck, jaw, epigastrium, shoulder, left arm

If patients develop chest pain in may indicate that the lumen is occluded at 60% or greater!!!

Chest Pain or Other Symptoms of Myocardial Ischaemia

- e.g. sweating, sudden orthopnoea, syncope, dyspnoea, jaw pain, arm pain, epigastric discomfort,

Be aware: HIGH RISK ATYPICAL PRESENTATIONS (e.g. diabetes, renal failure, female, elderly, Indigenous)
Ischemia – Injury – Infarction

Management of ACS

- **If ACS:** Consider **Oxygen** (Sats <94%), **Nitrates use with caution**, Morphine/Fentanyl, (MONA)

- Initial aspirin therapy
  - Aspirin 300 mg orally and without contraindications

- 12 lead ECG, Bloods (**Troponin**) and PIVC (**left arm if possible**)
Management on ACS

- Let someone know!!!! (Transfer to appropriate area)
- Timely review of ECG’s and Bloods

Additional antiplatelet and anticoagulation therapy or other therapies such as beta blockers, should not be given to patients without a confirmed or probable diagnosis of ACS.
STEAMI Management

- Westmead 24 hour Primary PCI capable hospital
- Code Blue 2222
- Advanced Trainee 24hours Call Switch!! JMO OnCall App
- Fibrinolytic therapy maybe an option if labs unavailable
NSTEAC Management - Risk Stratification

- Enzymes - Troponin
- ECG changes
- History
High risk & very high risk patients should have coronary angiography with revascularisation (PCI or CABG) where appropriate. (within 2 – 24 hours)

- 300mg Aspirin plus P2Y12 inhibitor

- IV glycoprotein IIb/IIIa in combination with heparin generally decided during time of PCI
One of the most important reasons for obtaining a 12-lead ECG is evaluation of the patient with chest pain and/or possible myocardial infarction (MI).

The information we hope to learn from the ECG in such patients is:

- Are there acute changes?
  - Is the patient likely to be infarcting?
  - Is there ischaemia?
  - Is there some other condition that might account for the ECG changes?

Always remember that patient history, physical assessment/chest pain assessment and biochemistry are required to assist with a diagnosis.
12 Lead ECG
12 lead ECG
The Acute Coronary Syndromes Clinical Care Standard relates to the care that patients with a suspected acute coronary syndrome receive from the onset of symptoms to the completion of treatment in hospital.

- Prompt chest pain assessment is provided.
- ECG is taken within 10 minutes of receiving medical help.
- Timely percutaneous coronary intervention (PCI) or fibrinolysis is offered if appropriate.
- Clinicians discuss a range of treatment options with their patients.
- A care plan outlining ongoing treatment is provided to patients when they leave hospital.
QUESTIONS