MANAGEMENT PROTOCOL

ON

ACUTE CHEST PAIN

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ACS definition

ACS

The term ACS refers to clinical symptoms that is consistent with acute myocardial ischemia covers a range of conditions including unstable angina (UA), ST-segment-elevation myocardial infarction (STEMI) and non-ST-segment-elevation myocardial infarction (NSTEMI).

Classical cardiac chest pain

Severe retrosternal chest pain, in the form of compression, heaviness, tightness, feeling of impending death, Radiating to jaw , left arm, persisting>20 min, Associated with profuse sweating, vomiting, dyspnea, palpitations.

History of risk factors

Past H/O MI, H/O DM, HTN , Dyslipidemia, Smoking, F/H of IHD.

Investigations

First line investigation:

ECG:

Where ECG available--- immediately a 12-lead ECG is to be done.
.If the initial ECG is not diagnostic and there is a high clinical suspicion for ACS repeat ECG after 6-8 hours.

STEMI- ST elevation in 2 or more contiguous leads (1 mm or more in limb leads and 2 mm or more in chest leads) and or new onset LBBB.

NSTEMI /UA-ST depression (1 mm or more) and or T wave changes (T ↓).

2nd line investigations

X-ray chest P/A view: If available, to exclude Pneumothorax.

Cardiac biomarkers CK-MB/Troponin –I : if possible.

Initial management of ACS Complications (Consider transfer to CCU)

Cardiogenic shock:

.I/V fluid, high flow O2, monitor BP, pulse, urine output, If systolic BP<80 mm Hg-inj dopamine(2.5-5 ug/kg/min),If systolic BP>80 mm Hg-inj dobutamine(2.5-15 ug/kg/min is preffered agent).

Ventricular tachycardia/Fibrillation

DC shock, if Defibrillator not available- give precordial thump, inj.Lidocaine(plain) -5 cc I/V,start CPR & send the pt to higher center with on the way support,

Cardiac asystole:

CPR, give inj.Atropine-2 ample I/V, inj. Adrenaline -2 ample I/V,

Acute LVF: loop diuretics, morphines if not contraindicated nitrates, Beta blockers, ACEI. high flow O2(60-100%),

Extreme bradycardia with or without Heart block: inj.Atropine,

Doses of commonly used drugs in ACS

Inj.Dopamine (200mg/amp)
Preparation: inj.dopamine 2 amp+500 ml normal saline, cardiac dose 5ugm/kg/min.

Inj.Dobutamine (250mg in 2 ml)
Preparation: 2 amp dobutamine+500ml normal saline, cardiac dose 5ugm/kg/min

Inj. Morphine(15mg/1ml amp)
Preparation:1 amp mixed with 14 ml5% DA or NS(15 ml contains 15 mg Morphine)

LMWH(20/40/60/80mg):1 mg/kg, sub-cutenious 12 hourly for 3—5 days.

Inj.Adrenaline 1 in 1000; 1 amp /1 mg,1mg through central vein/0.1 or 0.2 mg intracardiac.
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Management Protocol of Acute Chest Pain

Try to differentiate

Quick assessment by history, clinical examination

Cardiac

Severe retrosternal chest pain, persisting>20 min with profuse sweating, dyspnea, palpitation.

Suspected acute coronary syndrome(ACS): Check pulse, blood pressure, lung base for crepitation, ECG if available to see ST-T changes.

Pre hospital Rx

1) Chewable Tab Aspirin 300mg (4 tab of 75 mg each) & 300 mg Tab clopidogrel (4 Tab of 75 mg each).

2) Nitroglycerine spray 2 puffs S/L if SBP >100mmHg.

Admit preferably in CCU/ refer to 2ndary/tertiary level

If not able to reach CCU/2ndary/tertiary level

Non cardiac

Lateralized chest pain, Sudden respiratory distress, silent / hyper resonant lung.

Suspected pneumothorax

X-ray chest P/A view If available,

Needle aspiration when needed/refer to higher center.

Other causes ---like, Acute PUD, Acute pleurisy, Acute cholecystitis, Pulmonary embolism, Chest trauma, Herpis Zoster,etc.

Evalution, treatment & referal if needed accordingly

Hospitalization ,
O2 inhalation,
I/V access,
Tab Aspirin 300 mg & Tab Clopidogrel 300mg if not given earlier,
S/L nitrates 2 puff S/L, repeat if SBP>100 mmHg if not given earlier,
Other drugs indicated: B blockers if not contraindicated, ACEI/ARBs, Statins.
Pain killers:Morphine sulfate (2 to 4 mg IV with increments of 2 to 8 mg IV, repeated at 5- to 15-minute intervals) with promethazine / Prochlorperazine (only 1 dose) or inj. Pathedine.
LMW Heparin S/C 1 mg/kg bolus and then 12 hourly for 3-5 days.