Chest Pain Algorithm

MaineHealth

Not to be applied post cardiac procedure

Patient arrives with chest pain or anginal equivalent

Order the high-sensitivity troponin (hs-cTnT) panel upon presentation
Panel: *Generation 5 High Sensitivity Cardiac Troponin T - Inpatient* (O388384)*

Step 1: TROPONIN

- ANY hs-cTnT >50 ng/L OR ▲ >10 ng/L → **Rule in**
- Indeterminate lab result → **Observation zone**
- ALL hs-cTnT <11 ng/L (female/unidentified) or <14 ng/L (male) with ▲ <4 ng/L if presenting >3 hours after symptom onset → **Rule out**

*Panel includes timed troponin orders at baseline (required), 2 hours (required) and 4 hours (if needed)

Step 2: RISK SCORE

- Rule in → ACS confirmed
- Rule in → Consider alternate diagnosis → Refer to Table
- Observation zone → HEART ≥7: High probability → Consult with Cardiology
- Observation zone → HEART 0-6: Low to intermediate probability → Consider prior testing[2] before determining need for provocative testing
- Rule out → HEART ≥7: High probability
- Rule out → HEART 4-6: Intermediate probability
- Rule out → HEART 0-3: Low probability[3]

Step 3: DISPOSITION

- ACS confirmed → **Admit/consult Cardiology**[1]
- Refer to Table → **Admit to appropriate service**[1] (e.g. Medicine)
- Consult with Cardiology → **Admit/consult Cardiology**[1]
- Consider prior testing[2] before determining need for provocative testing → **ED Observation for further evaluation**[1]
- HEART ≥7: High probability → **Consider outpatient option based on clinical scenario**
- HEART 4-6: Intermediate probability → **Consider further testing**
- HEART 0-3: Low probability[3] → **Discharge home**

Reasons for elevation of cardiac troponin values because of myocardial injury

Refer to Cardiology - Cardiac conditions

- Atherosclerotic plaque disruption with thrombosis
- Cardiac amyloidosis
- Cardiac contusion
- Cardiac procedure other than revascularization
- Cardiogenic shock
- Cardiomyopathy
- Catheter ablation
- Coronary artery dissection
- Coronary artery spasm
- Coronary embolism
- Coronary revascularization
- Defibrillator shocks
- Heart failure
- Microvascular dysfunction
- Myocarditis
- Sustained bradyarrhythmia
- Takotsubo syndrome

Further discussion needed

- Hypotension or shock
- Respiratory failure
- Severe anemia
- Severe hypertension with or without left ventricular hypertrophy
- Sustained tachyarrhythmia

Refer to Medicine - Systemic conditions

- Chemotherapeutic agents
- Chronic kidney disease
- Critically ill patients
- Infiltrative diseases, e.g. sarcoidosis
- Pulmonary embolism, pulmonary hypertension
- Sepsis, infectious disease
- Strenuous exercise
- Stroke, subarachnoid hemorrhage

[1]Follow existing hospital protocol [2]Cath within 2 years, stress test within 1 year [3]If hs-cTnT <6 ng/L and HEART score ≤3, may choose not to obtain delta (▲)

DRAFT 5/1/2023