

# Cardiac Troponin

- ❖ Regulate Ca mediated contractile process, TC, TnI, TnT
- ❖ TnT :6-8% cytosol and TnI :2-3% cytosol that in MI release first
- ❖ Rise after 3 h of pain onset and elevate for 7-10 days for cTnI and 10-14 for cTnT



# Troponins

- ❖ Slow and fast skeletal muscle and cardiac muscle
- ❖ CT :myocarditis, contusion, cardioversion, HTN crisis,PE,
- ❖ CRF,sever sepsis

# CT

- With serial sampling for up to 12h :sensitivity :95% & specificity:90%
- but in single sample :70 and 75%

# CK-MB

- ❖ Low specificity:
- ❖ Skletal,tongue,diaphragm,small intestine,uterus and prostate
- ❖ CK-MB ratio: Chronic muscle destruction like dystrophy, high performance athletics,

# CK MB

- Short half life: if MB is normal but elevated CT: small MI, MI several days ago, ReMI

# CK-MB

- If troponin is not available CK-MB is alternative
- MB can be detected in the blood of healthy subject and rise in professional athletes
- Measuring of both of MB and CT is not cost effective and unnecessary 0/3/6h

# Other biomarker

- CRP:risk of death and CHF
- BNP:reflect hemodynamic impact of MI and prognosis

# Serum lipid

- During 24-48h Tc and HDL remain at baseline and then fall and fall in HDL is greater Tc
- Lipid profile should be obtain in first 24h
- Exam back to true value after 8weeks



# Hematologic finding

- WBC: elevation within 2h and reach a peak after 2-4 days(10-15000 and occasionally 20/000in large MI) and returns to normal after 1 week
- Frequently PMN percentage rise with shift to band
- Higher WBC worse prognosis

# Hematologic finding

- ESR: normal between 1-2 days and rise to peak 4-5 days and remain high for several weeks and dose not correlate with prognosis and MI size
- Hct: increase in first few days (hemoconsentration)
- Hb value powerfully and independently predicts major cardiac event

# Hematologic finding

- Mortality increase below 14 and above 17 due to O<sub>2</sub> delivery and increase in blood viscosity