The patient with 30 min chest pain presenting at the ER two hours after onset of symptoms

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Patient case presentation #1

- 48 year old gentleman
- Since 2 hours chest pain, «burning», duration > 30 minutes, VAS 9/10
- Transient radiation to both arms, 1st episode, concomitant slight dyspnea

- No medical history, no medication
- Risk factors: heavy smoker, 60py
- Hotel night manager, married.
Patient case presentation #1  ECG at presentation
Patient case presentation #1

- **hs-cTnT Values**
  - 0h: 38ng/L
Patient case presentation #1

- What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation #1

- What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation #1
Patient case presentation #1

- hs-cTnT Values
  - 0h: 38 ng/L
  - 1h: 106 ng/L
  - 2h: 258 ng/L
  - 3h: 436 ng/L
Patient case presentation #1

- **Take home message #1**
  - Young patient, no previous history of CV disease
  - Typical chest pain for 2 hours
  - Baseline hs-cTnT = 3-times 99th percentile
    - PPV about 90% for AMI
  - Go directly to cath lab
Patient case presentation #2

- 76 year old gentleman
- chest pain after lunch, constant «pressure» for 1.5 hours, VAS 7/10, slight intermittent radiation to the neck, no dyspnea
- complete pain relief after iv morphine 3mg

- In general in good shape, still working in car industry
- Risk factors: hypertension
- Medication: Alfuzosin (Alpha-1-Blocker)
- Chronic renal impairment
  - eGFR 46 ml/min (CKD-EPI)
Patient case presentation #2

ECG at presentation
Patient case presentation #2

- **hs-cTnT Values**
  - 0h: 22 ng/L
Patient case presentation #2

What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation #2

What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation

- **hs-cTnT Values**
  - 0h: 22 ng/L
  - 1h: 35 ng/L
  - 2h: 42 ng/L

- **CCU & Coronary Angiography**
Patient case presentation #2
Patient case presentation #2

- **Take home message #2**
  - Older patient, possible cardiac comorbidities
  - Baseline hs-cTnT ≤ 2-times 99th percentile
    - PPV about 60% for AMI
  - 2nd hs-cTnT at 1 hour: Delta 7 ng/L
    - PPV about 90% for AMI

Patient case presentation #3

- 61 year old gentleman,
- Since 2 hours chest pain, «pressure», duration = 30 minutes, VAS 4/10
- Constant radiation to the left arm, relief of pain while lying down

- Intermittent AF, PVI 4 years ago, known mitral regurgitation
- Risk factors: history of smoking, hypercholesterolemia

- Medication: None
Patient case presentation #3

ECG at presentation
Patient case presentation #3

- hs-cTnT Values
  - 0h: 3 ng/L
Patient case presentation #3

What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation #3

What would you do next?

1. Monitor & 2nd hs-cTn at 3 hour
2. Monitor & 2nd hs-cTn at 1 hour
3. Go directly to cath lab
4. Coro-CT
Patient case presentation #3

- hs-cTnT Values
  - 0h: 3 ng/L

*IF CPO < 3h*
Patient case presentation #3

- **hs-cTnT Values**
  - 0h: 3 ng/L
  - 1h: 4 ng/L
  - 3h: 4 ng/L

- Patient discharged, 7 days later myocardial perfusion imaging (MPI)
Stress

SRS = 0
SSS = 0
SDS = 0

LVEF: 56%
Ca-Score: 7 (Agatston)
Patient case presentation #3

- **Take home message #3**
  - Baseline hs-cTnT ≤ 3 ng/L is very low
    - PPV <5% for AMI
  - Would allow immediate rule out if CPO ≥ 3 hour
  - CPO is 2 hour, rule out at 1 hour