

# Heart on strike



# Where do we come from...?



# A 70-year-old woman (1)



- **History** : hypertension, no other cardiovascular risk factor
- **Recent medical history** :
  - Violent Verbal argument with neighbour
  - Middle thoracic pain few minutes later
  - Time to ER < 1 hour
- **Clinical examination** :
  - Apyrexia, Ø asthenia, Ø anorexia
  - Constrictive and intense chest pain >30 minutes
  - B.P : 100/70 mmHg, pulse : 100 bpm.
  - No cardiac failure
  - Normal cardiac auscultation

# A 70-year-old woman (2)



- First ECG (H+2) = normal
- Chest radiography : normal
- Biology
  - Normal initial Troponine Ic
  - no inflammatory syndrome
  - Normal D-dimer
  - Normal PO2
  - Other biology routine test...normal

# Non STEMI

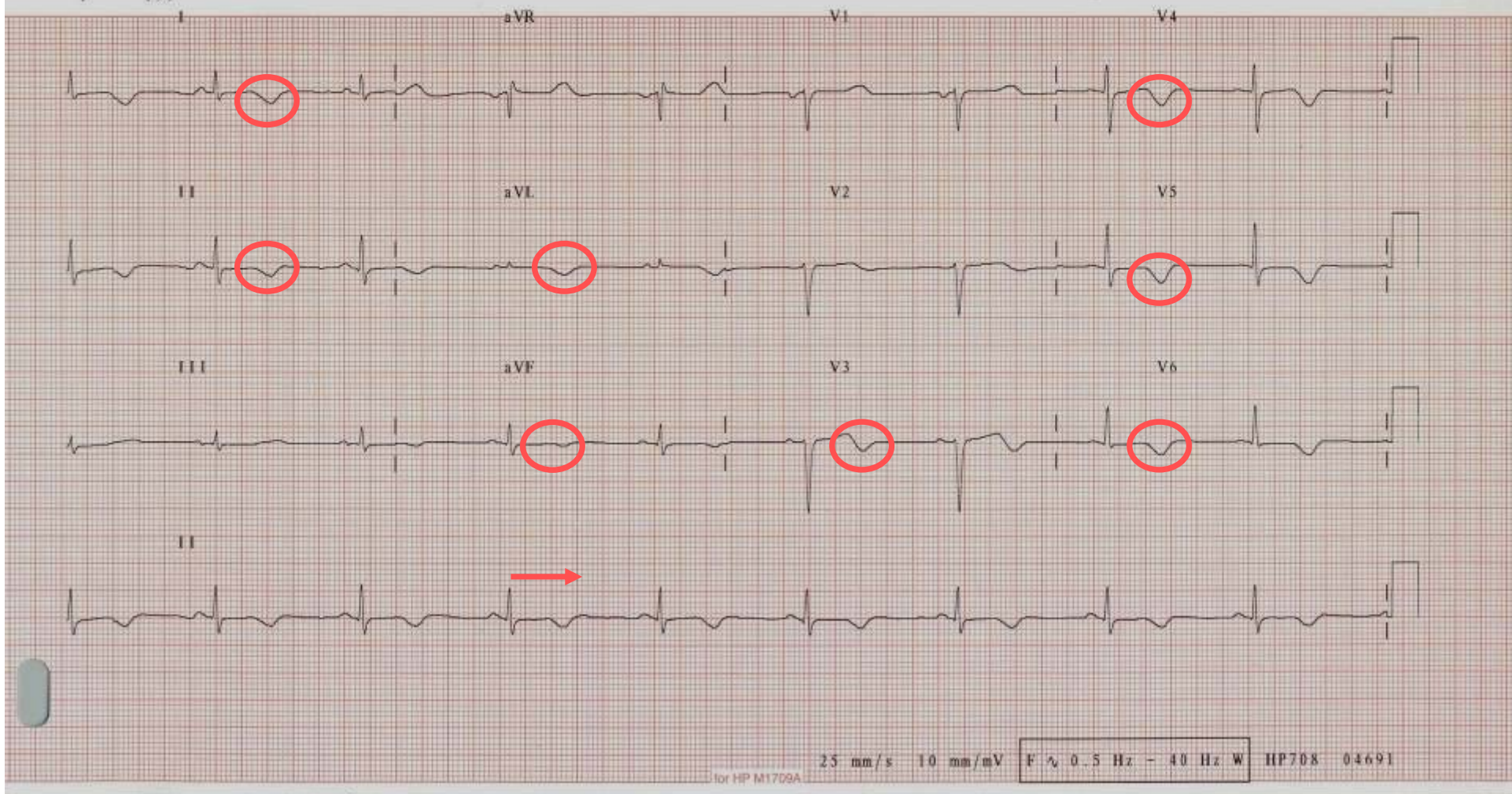


- Hospitalisation :
  - Aspirin,
  - Heparin...
- Echocardiogram:
  - Akinesia of the mid portion of the left ventricular chamber
  - Ejection fraction : 40%.
  - No pericardial effusion
- Highest Ic Troponin level (H12) : 3,71 $\mu$ g/L (N<0,04)

Rate 53  
PR 142  
QRSD 87  
QT 535  
QTc 502

# ECG H + 12

--Axis--  
P 37  
QRS 35  
T 197



# To be or not to be a myocardial infarction ?



- **To be :** A non ST acute coronary syndrome
  - Typical chest pain
  - Compatible ECG abnormalities
  - Elevated cardiac biomarkers
- **Not to be :**
  - No cardiovascular risk factor
  - Unexpected low troponin level
  - No systematisation
  - Late ECG change

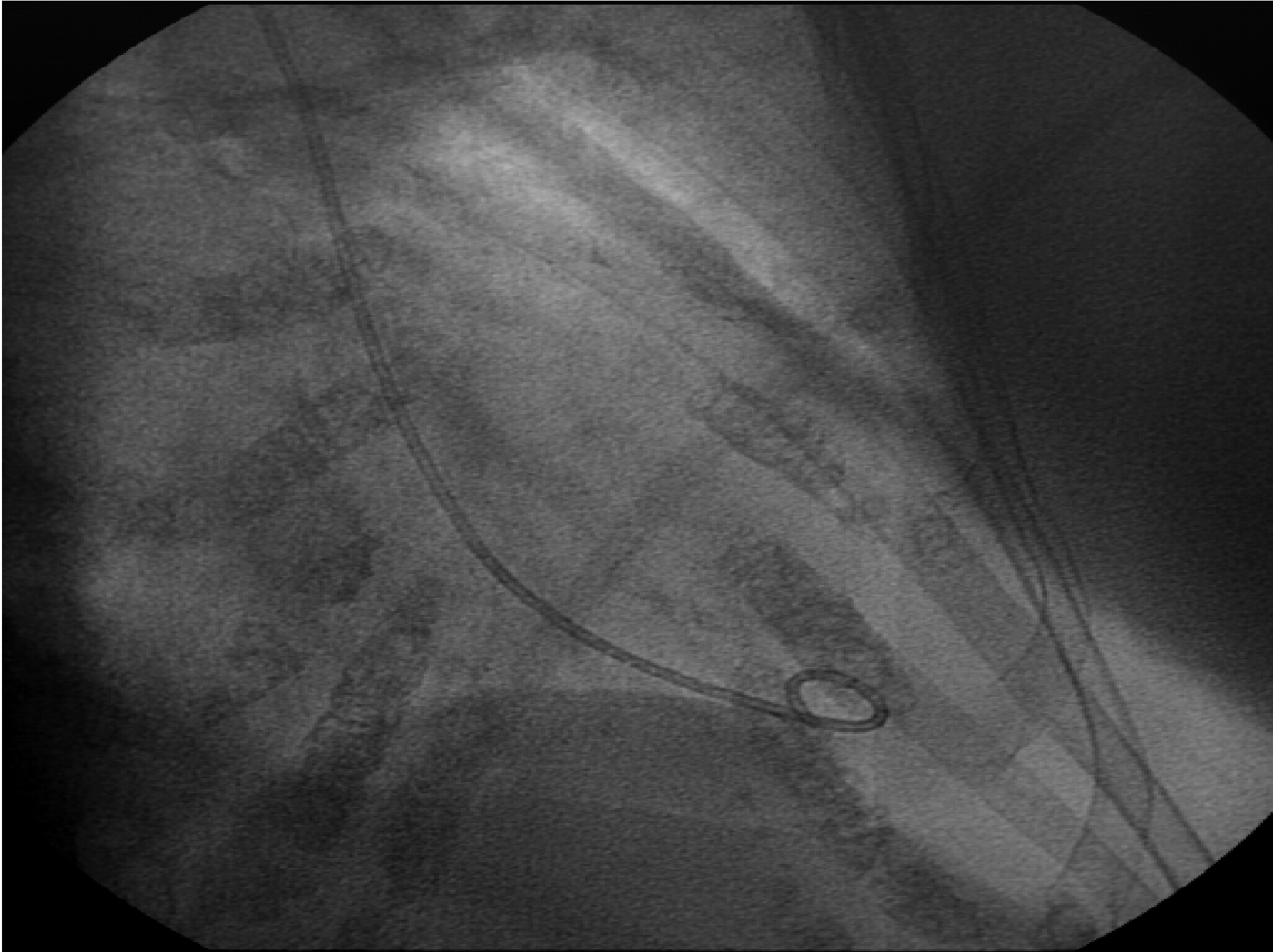


**Diagnosis ???**

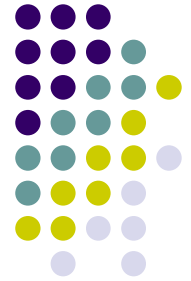


**What else ??**





# Emergency cardiac catheterization



- **Coronary angiography**
  - No significant coronary artery disease
- **Left ventriculogram**
  - EF 40%
  - Severe distal anterolateral, apical, and diaphragmatic dyskinesis with hypercontractile basal segment

# TAKO TSUBO (蛸又牛)



- Left apical ballooning syndrome

*Dote and al. J Cardiol 1991*

- Not so rare : 1-2% acute coronary syndrome

*Prasad and al. Am Heart J 2008*

- Life threatening /acute stage but excellent long time prognosis
- Typical presentation : middle age women (50 to 70 y.o.)
- Trigger : emotionnal stress, surgery, subarachnoidal haemorrhage
- Clinical presentation : acute coronary syndrome, cardiac faillure, arythmia, cardiac arrest...

# TAKO TSUBO



- **ECG Pattern**
  - ST abnormalities : ST elevation
  - T-wave inversion
  - Conduction disorder
  - Rare : pathological Q wave, QT prolongation
- **Biology** : moderate Ic troponin level
- **Physiopathology:**
  - Epicardial coronary spasm
  - Microvascular coronary spasm
  - Catecholamine-mediated toxicity

# TAKO TSUBO



**Table II.** Proposed Mayo Clinic criteria for ABS

1. Transient hypokinesis, akinesis, or dyskinesis of the left ventricular mid segments with or without apical involvement; the regional wall motion abnormalities extend beyond a single epicardial vascular distribution; a stressful trigger is often, but not always present. \*
2. Absence of obstructive coronary disease or angiographic evidence of acute plaque rupture. †
3. New electrocardiographic abnormalities (either ST-segment elevation and/or T-wave inversion) or modest elevation in cardiac troponin.
4. Absence of:
  - Pheochromocytoma
  - Myocarditis

# CONCLUSION

- Underestimated cause of ACS
- Complete recovery of systolic function (4-6 weeks)
- Overall prognosis : excellent
- Management as an ACS



60<sup>ème</sup>  
Congrès

de la Société Nationale Française de Médecine Interne ●

& 4<sup>ème</sup>  
Congrès

Franco-Maghrébin de Médecine Interne

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Centre de Congrès Pierre Baudis de **TOULOUSE**  
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