

TRIAGE 17

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GREAT INNOVATIONS IN CARDIOLOGY
6TH JOINT MEETING WITH MAYO CLINIC
Turin 14TH-15TH October 2010

LOCATION



- “**Camillo Golgi Hospital**”, one of the seven hospitals in a metropolitan area with a population of 750.000 units .
- 275 hospital places but not a CathLab (**SPOKE Hospital**)
- An **Emergency Department** with 80.000 accesses at year. 5 places in Coronary Care Unit; 12 sub-intensive cardiologic places.
- **2 HUB Hospital with CathLab** (15 minutes far away).

CAST



PROLOGUE 5.30 pm

A 73 years old woman, diabetic, with history of hypertension and COPD.

Forty days before she had an acute hemorrhagic gastritis.

Three years before she had an acute pancreatitis.



From one hour she has epigastric pain, vomiting, profuse sweating and palpitations.

Transferred by 118 (911) in the triage area of "Camillo Golgi" at 5:45 pm in a freezing winter day.

The current is the tenth 118 intervention from 9:00 am.

5:45 pm

TRIAGE AREA



Triage Nurse

First evaluation

- Arterial pressure 100/60 mmHg
- Heart rate 105 bpm
- Respiratory rate 20/min
- Oxygen saturation 91%
- Pain rate 4/10 NRS
- ECG normal

Triage code: **YELLOW**

Measures

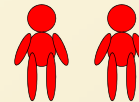
- Nursing room observation
- Oxygen 2 lt/min

Time to medical evaluation: fifteen minutes

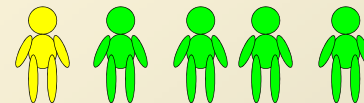
EMERGENCY DEPARTMENT



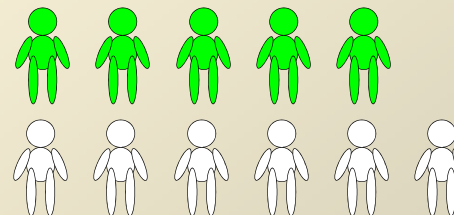
EMERGENCY ROOM



NURSING ROOM



WAITING ROOM



Time to first medical evaluation: GREEN CODE 30 minutes; WHITE CODE 45 minutes

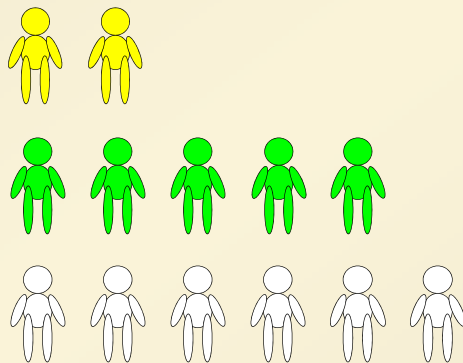
5:50 pm

FIRST MEDICAL CONSULTING ROOM



First Internist

Since four hours he is visiting a lot of patients seating in triage area. At that moment: two yellow codes, five green codes, six white codes.

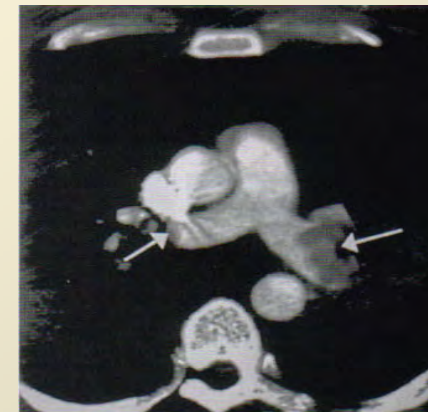


EMERGENCY ROOM



Second Internist

Since twenty minutes she is performing a cardio-pulmonary resuscitation in a 61 years old man affected by massive pulmonary embolism.



Hospital ambulance engaged for a non-emergency medical transportation.

6:10 pm

NURSING ROOM



First Internist

He is visiting **our patient**.

EMERGENCY ROOM

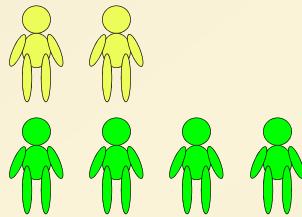


Second Internist

The patient with pulmonary embolism died.

The doctor is talking with patient's family in a very nervous situation.

NURSING ROOM SITUATION



Due by a net fault, all laboratory tests will arrive thirty minutes late.

Average for green code 35 minutes. Average for white code 55 minutes.

6:22 pm

FIRST MEDICAL CONSULTING ROOM

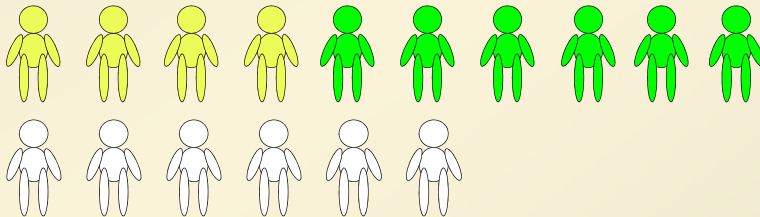


Second Internist

Police escort a 37 years old mental diseased man that attacked a woman walking along the street, wounding her at face.

TRIAGE

Two new yellow codes; three green codes.



NURSING ROOM



First Internist

Our patient suffers from addominal pain and is diffusely sweating.

- Arterial pressure 100/55 mmHg
- Heart rate 110 bpm
- Oxigen saturation 95%

Treatment

- Pantoprazole 40 mg iv
- Tramadol 100 mg iv
- IV fluids
- Liver function tests, CBC, troponin
- Abdominal ultrasound

118 (911) call: in arrival a 31 years old woman in coma

6:40 pm

EMERGENCY ROOM



First and second Internist

They assess together the young woman in coma.

Treatment

- IV fluid
- CT brain
- Neurologic consultation

Patient's relatives crowd in the Emergency Department. Only an intervention of the Internal Security restores order.

NURSING ROOM



NR Nurse

Our patient's conditions are worsening:

- increasing epigastric pain
- cold and sweaty skin
- arterial pressure 90/40
- heart rate 125 bpm
- oxygen saturation 92%

Treatment

- Second ECG (6:50 pm)
- Cardiologic alert

Average for green code 60 minutes. Average for white code 115 minutes

6:55 pm

NURSING ROOM



First Internist

Second clinical evaluation

- T3
- pulmonary rales
- cardiac shock

RED CODE => EMERGENCY ROOM

Laboratory tests

- Hb 9,2 g/dL
- Liver function normal
- Creatinine 1,7 mg/dL
- Troponin T 0,07 mcg/L
- Glycemia 216 mg/dL

EMERGENCY ROOM



Cardiologist

Electrocardiogram

Sinus tachycardia. Acute infero-lateral myocardial infarction.

Echocardiography

Septal ipo-akinesia. Inferior and infero-lateral akinesia. Low ejection fraction.

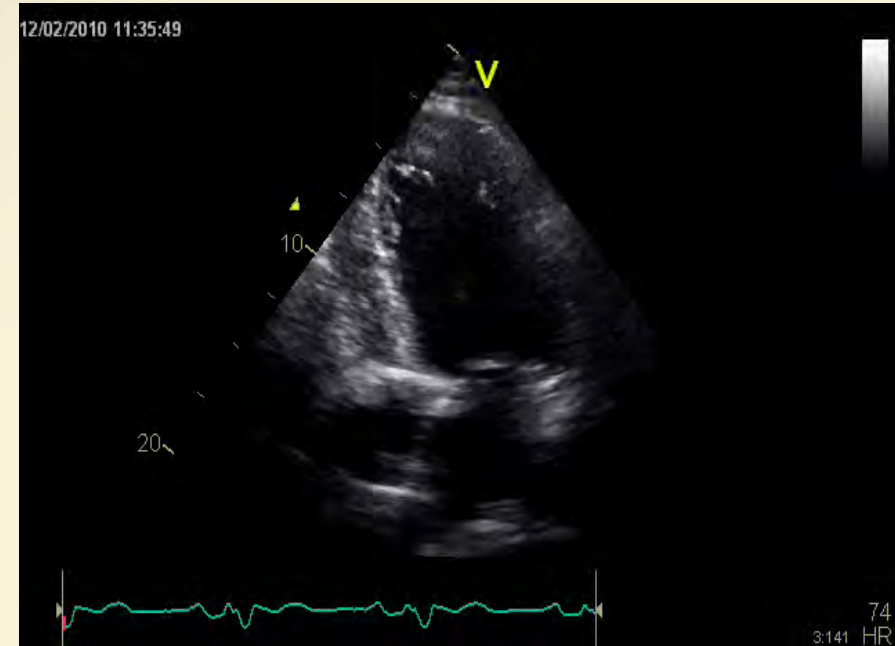
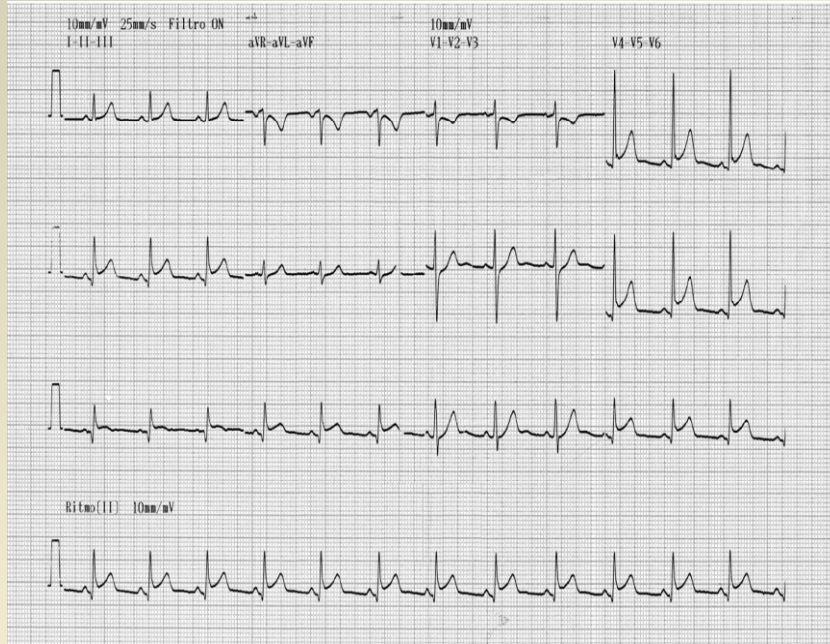
Clinical evaluation

- Arterial pressure 85/45 mmHg
- Heart rate 120 bpm
- Oxygen saturation 90%

118 call: in arrival a 81 years old man with acute respiratory failure

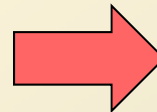
7:00 pm

EMERGENCY ROOM



Treatment 's choises

- No lithic therapy
- Dopamine 15 mcg/kg/min
- Acetylsalicylic acid 250 mg iv
- Clopidogrel 600 mg po



HUB hospital with CathLab

- Immediate patient's transfert
- Stand-by for urgent procedure

From TRIAGE: growing discontent for lengthen of waiting time.

7:10 pm

CONSULTING ROOM



First Internist

He is visiting a man, returned from Venezuela three days before, suffering from mild confusion, fever, stiff neck (**triage code: YELLOW**).

EMERGENCY ROOM



Second Internist

31 years old woman in coma: brain TC highlights a subarachnoid hemorrhage.

- Transfert to Neurosurgery



Cardiologist

- No ambulance available from 118 to at least thirty minutes.
- No hospital ambulance (back from HUB Hospital). Arrival time: 15 minutes.
- **Our patient's** clinical state: critical.

7:35 PM. AMBULANCE GOES TOWARDS HUB HOSPITAL'S CATHLAB

7:50 pm

HOSPITAL HUB



CathLab

8:05 pm

- Arterial pressure 85/45 mmHg
- Heart rate 120 bpm
- Oxygen saturation 91%
- ECG Acute STEMI infero-lateral



Heamodynamist

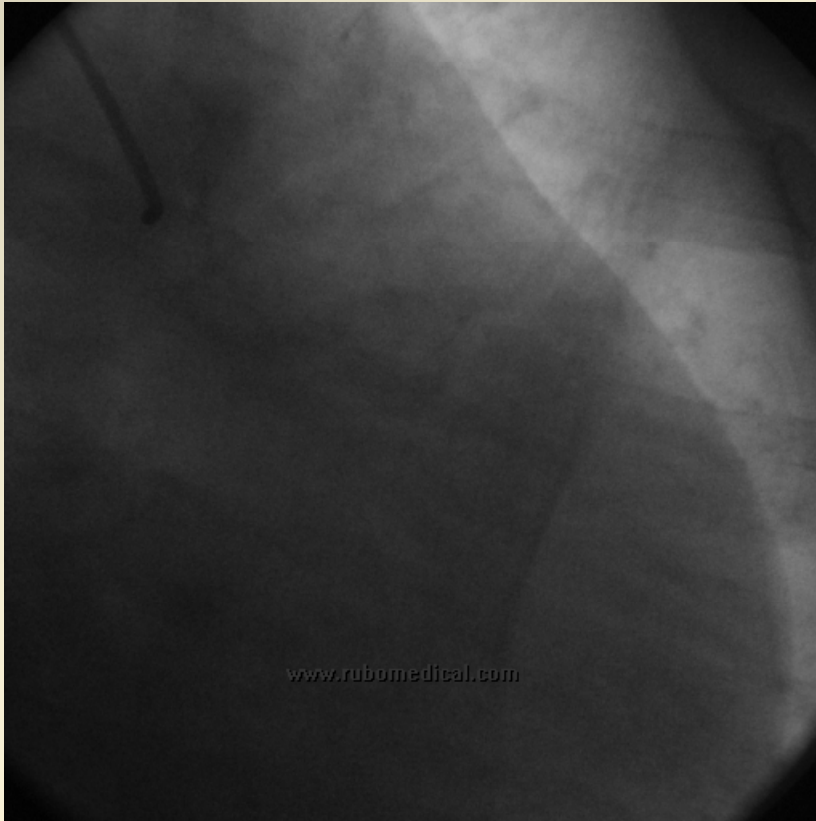
8:20 pm

- IABP
- Stop dopamine
- Heparin 3.000 UI iv

After IABP clinical patient's clinical state improves.

8:30 pm

CATHLAB



8:40 pm Coronary angiography is complete

8:50 pm. After an eptifibatide iv bolus a PTCA has started.



Time to needle: **210 minutes**
Time to balloon: **225 minutes**



***IN THAT CONTEXT, COULD WE
HAVE DONE BETTER?***



***WHICH COULD BE THE WEAK
POINTS OF THE ORGANIZATION?***

