ESIM Saas-Fee, January 2012

Fever and abdominal pain in a 55-year-old man

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MEDICAL HISTORY

- Male, 55 years old.
- Emergency department: abdominal pain and perspiration.
- Personal data:
  - No drug allergies.
  - Active Smoker (20 pack year smoking history).
  - Arterial hypertension.
- Clinical history:
  - Abdominal pain and diaphoresis, 3 days of evolution.
  - Pleuritic chest pain (left side) in the last 24 hours.
  - Nonproductive cough. No dyspnoea.
  - Hand tremor.
  - He had just come back from Murcia (Mediterranean sea). Hotel and Spa.

PHYSICAL EXAMINATION

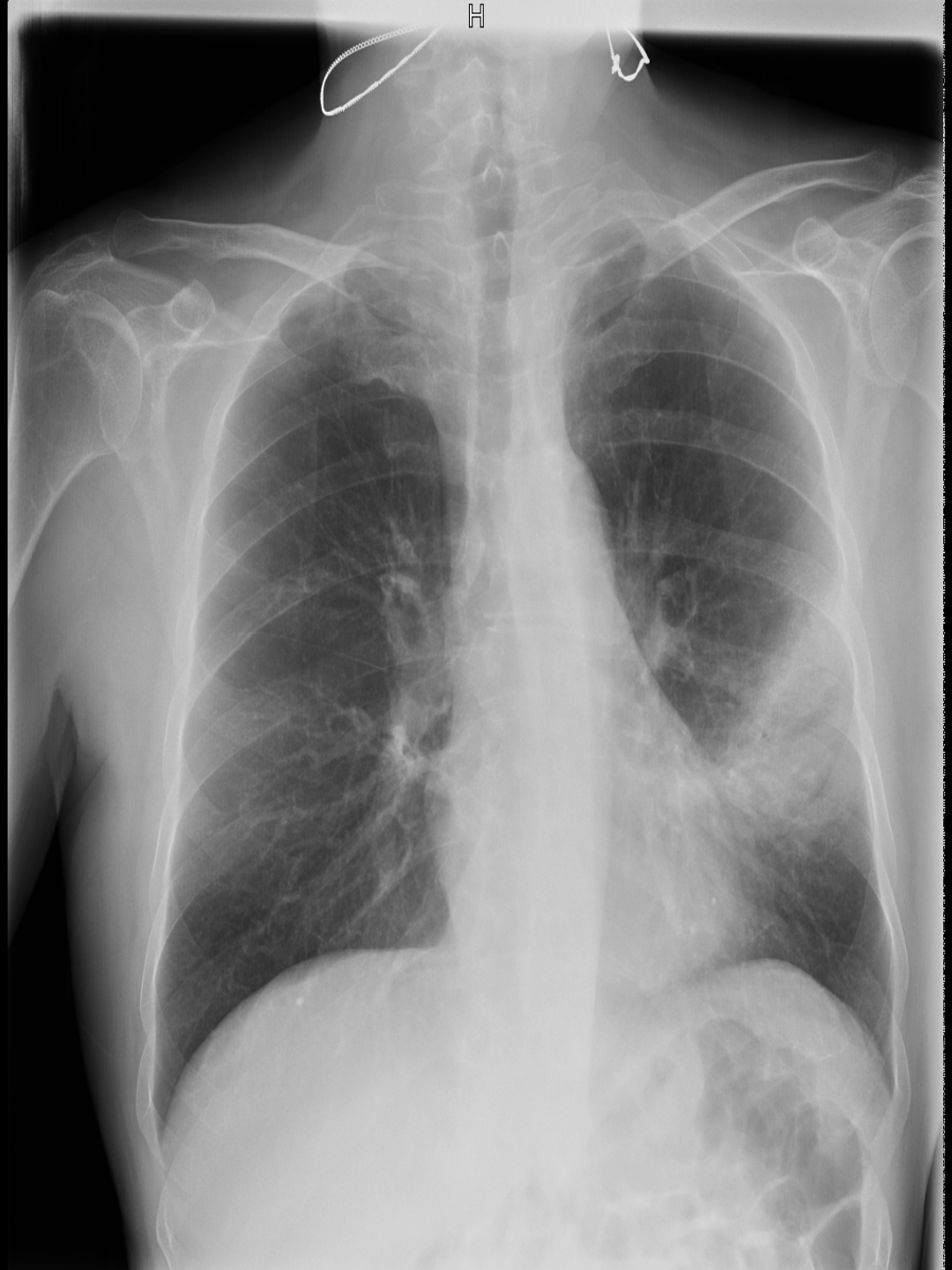
- BP: 168/86 mmHg. HR: 110 bpm. OS: 99%, RR: 24 rpm. Axillary temperature 36.4º C (97F).
- Head and neck: no lymph nodes. Normal oropharynx and eardrums.
- Chest: normal cardiac auscultation. Fine crackles (anterior left lower lobe).
- Abdomen: hepatomegalia > 4 cm. No asctitis.
- Extremities: no edema, rhythmic peripheral pulses.
- Neurology examination: hand tremor (no flapping), irritability.

EXAMS

- Blood count: WBC 21.990/mm^3 (N 18.750, L 930, M 2.299), Hemoglobin 15.9 g/dL, MCV 105.3 fl (86-98), Platelets 232.000/mm^3.
- Coagulation test: normal, fibrinogen **977** (180-430).
- Chemistry: Glucemia 146, urea 25, creatinine 1.0, Na 134 (135-145), K 3.8, Cl 96, uric acid 5.0, albumin 3.2 (3.5-5.0), Ca 8.8, P 2.9, HCO_3 25.8, Mg 0.7. Tn I (TnIc) < 0.017, CPK 94, NT proBNP 2673 (< 200). B12 vitamin 316, folic acid 5.8, ferritin 973 (200-350).
- Liver tests: ALT (GPT) 40, AST (GOT) 31, GGT 183 (16-55), alkaline phosphatase 75, Amylase 45, bilirubin 0.6.
- Lipid profile: total cholesterol 117, HDL-C 27, LDL-C 68, TG 108.
- Reactive C-Protein: 208.4 mg/L (< 10).
- Thyroid test: TSH 0.85, T4 libre 1.4.
- Ethanol < 10 mg/dl.
- Urine test: pH 5.5, 1-3 erythrocytes/µL.
- Electrocardiogram**:** sinus tachicardia. No signs of pericarditis.

WHICH TEST WOULD YOU ORDER NOW?

- 1. Cranial CT scan.
- 2. Chest radiography.
- 3. Abdominal ultrasound.
- 4. Echocardiogram.
- 5. Chest CT scan.



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Protocol:TORAX_PA_Y_LAT_H
CF:

Instit:Hosp.Univ.Puerta de Hierro
RefPhys:Gómez Peñalba Camino
Model:"Feitian Platform"
PatPos:
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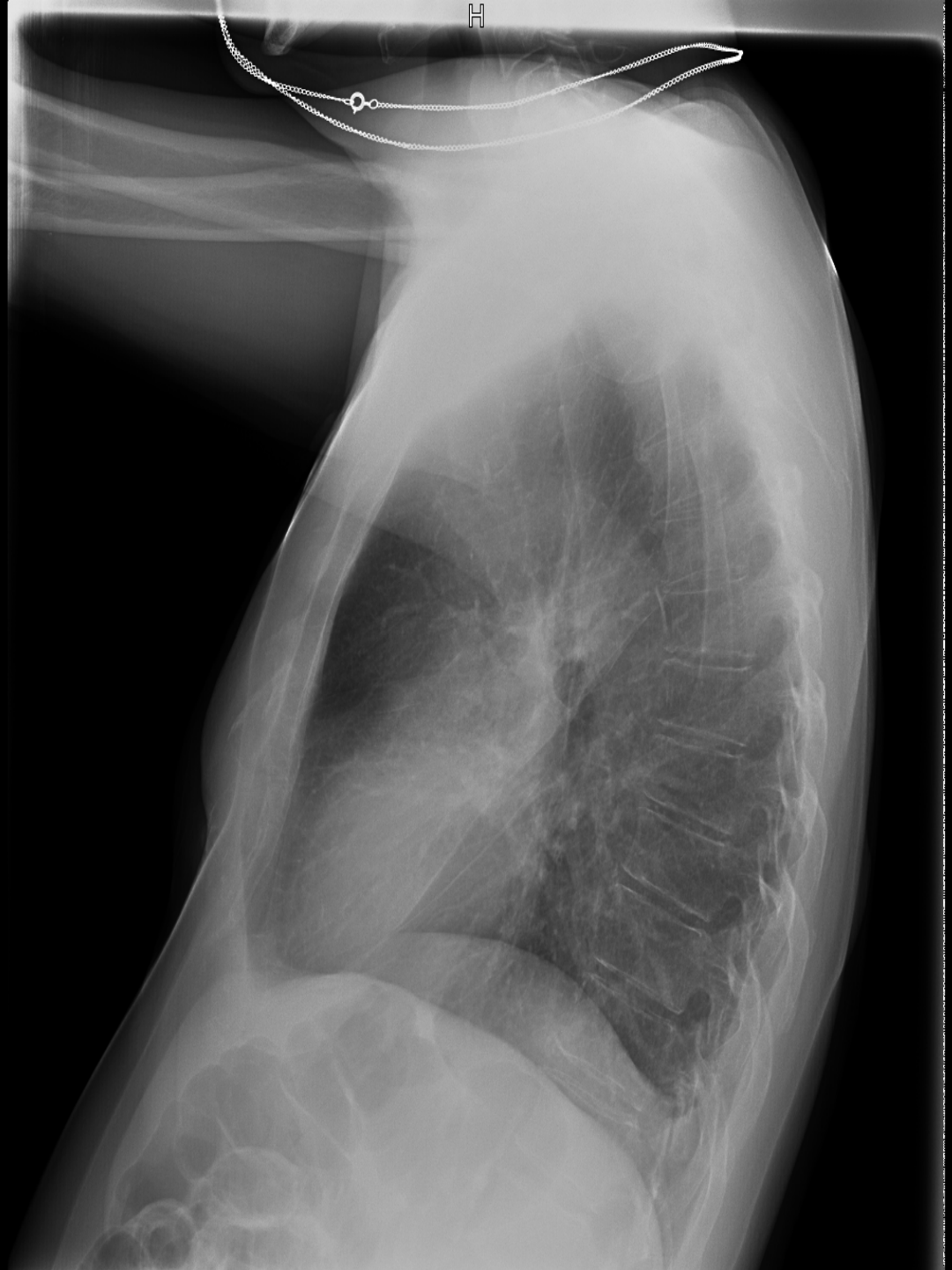
C 8192



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Protocol:TORAX_PA_Y_LAT_H
CF:

Instit:Hosp.Univ.Puerta de Hierro
RefPhys:Gómez Peñalba Camino
Model:"Feitian Platform"
PatPos:
CF:

W 16383
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INITIAL DIAGNOSIS

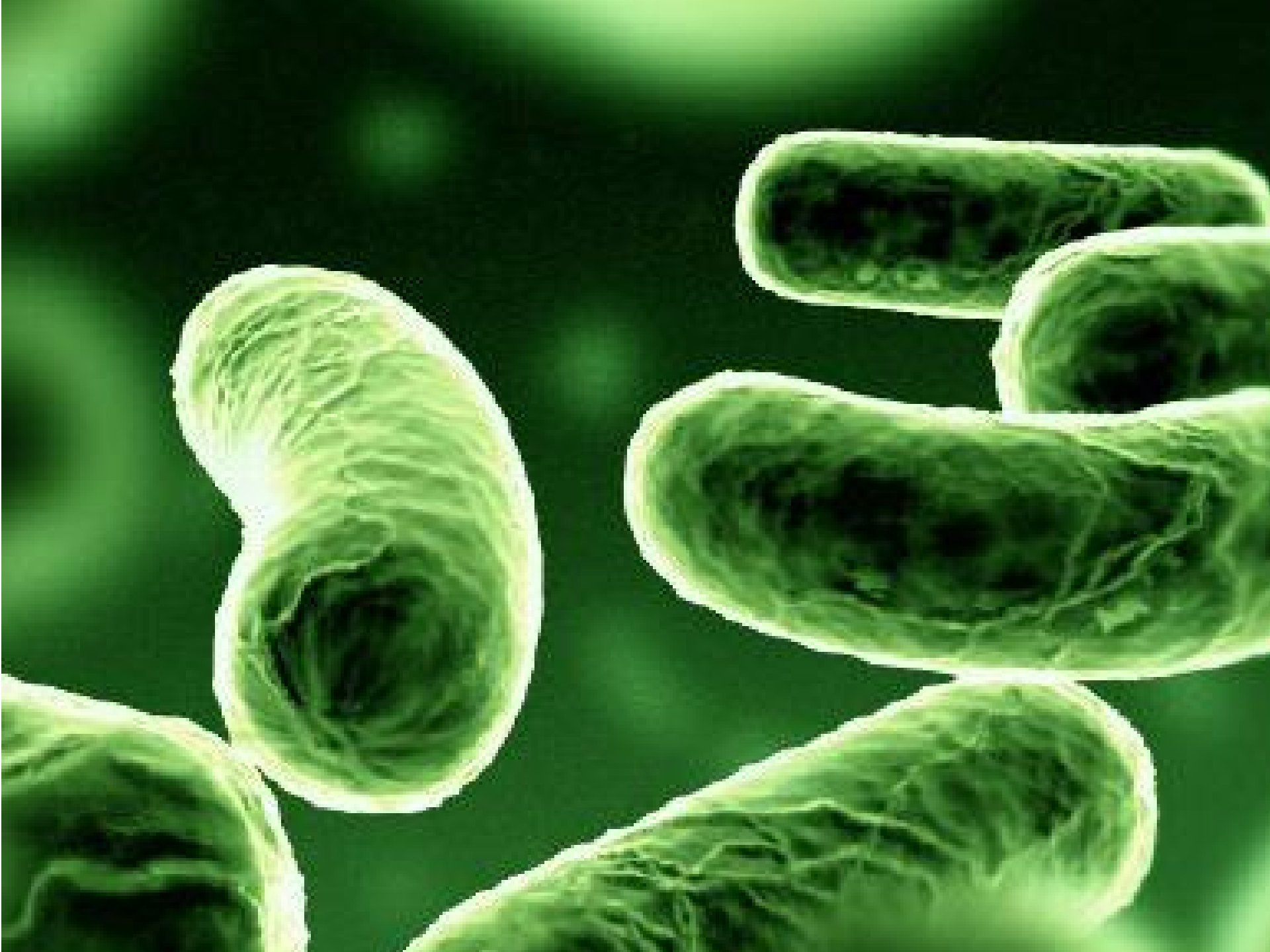
- Acute Community-Acquired Pneumonia.
- Left lower consolidation.
- Fine (PSI): 116 (IV).
- CURB65: 2.
- No pleural effusion and any other complication at admission.

DIFFERENTIAL DIAGNOSIS

- NONINFECTIOUS CAUSES OF ACUTE INFILTRATES:
  - Acute Pulmonary Edema.
  - Pulmonary embolism (pulmonary infarction).
  - Pulmonary haemorrhage.
  - Encapsulated pleural effusion.
  - Hypersensitivity Pneumonitis
  - Acute eosinophilic pneumonia.

- NONINFECTIOUS CAUSES OF CHRONIC INFILTRATES:
  - Vasculitis.
  - Neoplasia.
  - Drugs.
  - Radiotherapy.
  - Sarcoidosis.
  - Alveolar proteinosis.

¿WHO KNOWS THE DEFINITIVE TEST WE ORDERED TO COMPLETE THE DIAGNOSIS OF OUR PATIENT?



Urinary *Legionella* Antigen Test

- *Legionella pneumophila* serogroup 1 (90% of CAP due to *Legionella*).
- Immunochromatography test.
- S 95%. E 95%.
- Problem: it remains positive from weeks to months after treatment.
- Indications:
  - Pneumonia with Hospital admission criteria (Fine III-V).
  - Clinical or epidemiological suspicion.
- IT CAN BE PERFORMED IN PLEURAL EFFUSION IF NEEDED!

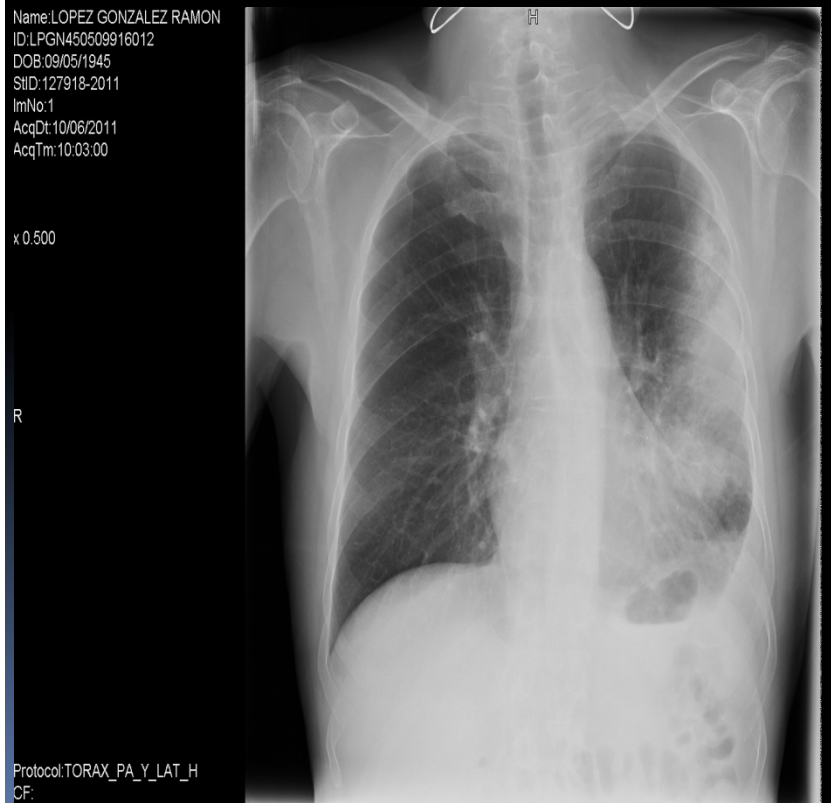
CAP ETIOLOGY IN EUROPE

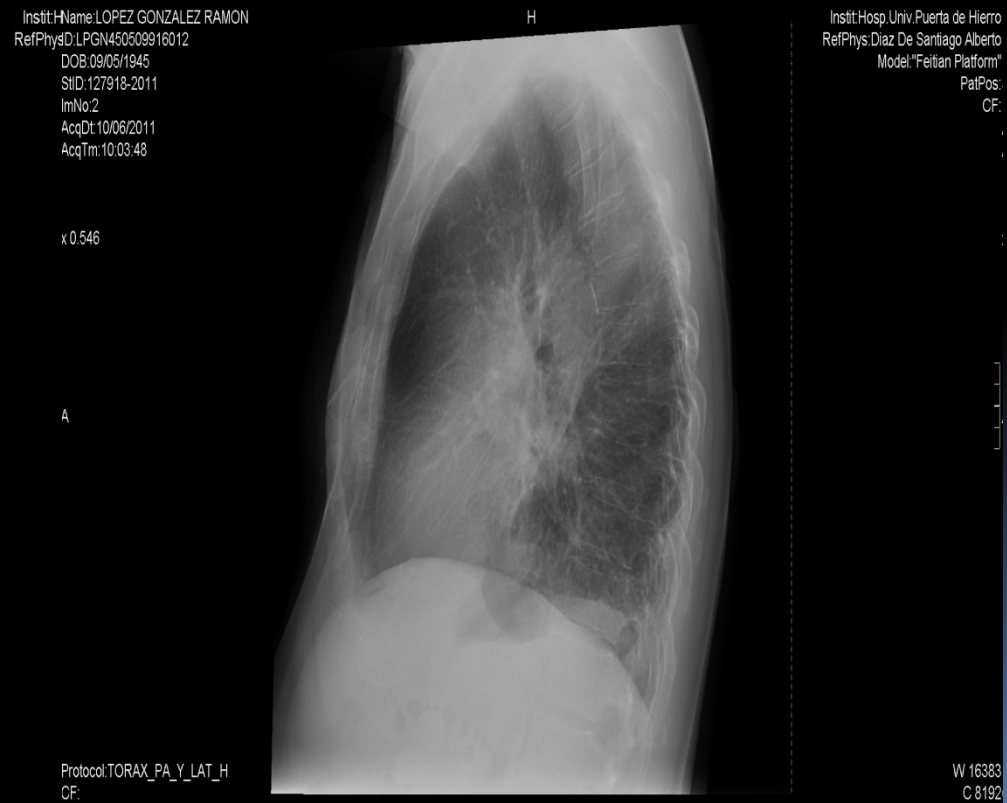
Microorganism	Comunity, %	Hospital, %	ICU, %
S. pneumoniae	19	26	22
H. influenzae	3	4	5
Legionella spp	2	4	8
S. aureus	0.2	1	8
GNB	0.4	3	7
Atypical bacteria	22	18	3
Viruses	12	11	5
Unidentified	60	44	42
Atypical bacteria: *C. pneumoniae, M. pneumoniae, C. Psittaci, C.burnetti.*			

SEPAR. Arch Bronconeumol. 2005;41:272-89.

EVOLUTION

- Admission in Internal Medicine Service.
- We started antibiotic therapy with oral levofloxacin, 500 mg/d.





CHEST CT SCAN INDICATIONS

- Unknown diagnosis.
- Poor or none response to therapy.
- Immunosupressive patients.
- Cavitated pneumonia.
- Neoplasia suspicion (obstructive pneumonia).
- Pleural complications.
- Pulmonary embolism suspicion (angio CT scan).

In 27% of cases, pneumonia was demonstrated on CT in the face of a negative or non-diagnostic CXR.

Hayden GE et al, J Emerg Med. 2009 Apr;36(3):266-70.

PLEURAL EFFUSION DRAINAGE

Anatomy		Microbiology	Pleural Chemistry	Category	Risk of Poor Outcome	Drainage
<10 mm on lateral decubit film	+	Unknown	pH unknwon	1	Very low	No
Free-flowing and < ½ hemithorax	+	Negative culture and Gram stain	pH ≥ 7.20	2	Low	No
≥ ½ hemithorax; loculated; swelled pleural	or	Positive culture or Gram stain	pH < 7.20	3	Moderate	Yes
PUS (EMPYEMA)				4	High	Yes

Medical and Surgical Treatment of Parapneumonic Effusions: An Evidence-Based Guideline. Gene L. Colice et al. Chest 2000;118;1158-1171.

EVOLUTION

- Patient wihtout temperature during 7 days of admission.
- We did not make thoracocentesis. Good response with levofloxacin.
- Total resolution of pleural effusion.
- Patient complete 14 days of antibiotic therapy (7 days at home).
- No infiltrates in the chest radiography 6 weeks later.

LEGIONNAIRES' DISEASE