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Clinical cases for continuing medical education by MédiS Laboratories

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INFECTIOUS DISEASES

Editorial

Dear colleague,

The acute community-acquired pneumopathy is a very common infection, affecting the pulmonary parenchyma. The diagnosis is based on some clinical arguments which should be confirmed by a thoracic radiography. The following step would be the evaluation of its severity which will determine the choice and the place of its therapy.

The community-acquired pneumopathy is a medical emergency. Its treatment is the more often probabilistic.

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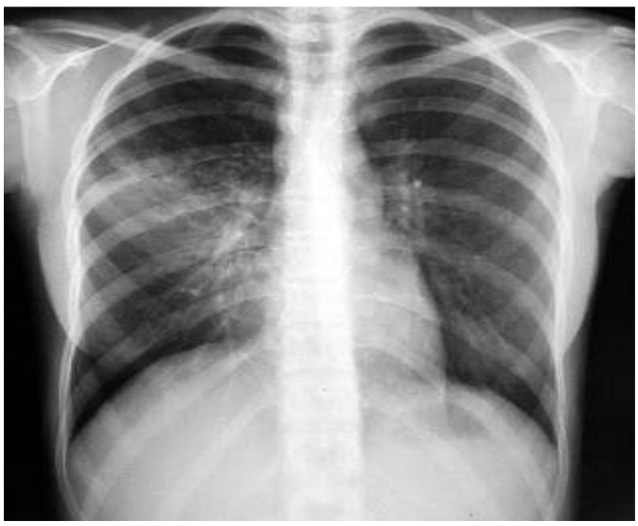

Clinical data

Miss GH, 17 years old, consulted in emergencies for fever, right thoracic pain and productive cough.

- *Absence of a particular history*
- *Disease history : it started since 5 days with : non productive cough, fever and sweating. She consults a General Practitioner who prescribed "amoxicillin + clavulanic acid" at the dose of 2g / day + a anti-cough syrup*
- *There were no improvement with persistence of the right thoracic pain and purulent expectorations*
- *The physical examination shows :*
  - *Conserved general condition*
  - *Fever at 38.5°C*
  - *Blood pressure : 10/6, pulse rate : 85pulses/min, regular cardiac rhythm*
  - *Respiratory frequency : 18 cycles/min*
  - *Pulmonary auscultation : crackling sound at the base of the right lung*

The rest of the examination is normal and with no particularities

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Solutions and comments

Question 1 : What are the two diagnosis to be evoked facing this radio-clinical case?

Response 1 :

- The acute community-acquired pneumopathy : inflammatory infectious affection of the deep parenchyma of the lungs. A common cause of consultation in pneumology
- The Common pulmonary tuberculosis : to be systematically evoked, Tunisia being endemic for this pathology with a prevalence of 20 / 100 000

Question 2 : What are the complementary exams to be prescribed for this patient?

Response 2 :

- Cyto-bacteriological examination of the spits
- Research of Koch Bacillus in the spits

In fact:

* Absence of standardization of the means of samplings. Difficulties of isolation of some germs in laboratory
* Cyto-bacteriological examination of the spits
  - o No invasive technique with risk of contamination by the commensal flora existing in the upper airways
  - o Cellular count : more than 25 neutrophils and less than 10 epithelial cells/ field
  - o Culture : a single germ at, at least, 107unities forming colony/ ml
* Research of Koch Bacillus : Direct examination with Ziehl Nielsen coloration showing the presence of alcohol-acid resistant bacillus

Question 3 : Which germ to be first evoked?

Response 3 :

- Streptococcus pneumonia : remains the most common infectious agent found throughout the studies (30 75% of the cases)
- The variations are due to:

o Variability of the used diagnosis means

o History of previous antibiotic treatment (it is known that pneumococcus can not be isolated after the taking two doses of antibiotic)

- M. pneumonia and L.pneumophila : atypical germs which require a particular epidemiologic context

Question 4 : Which antibiotic should be prescribed to this patient?

Response 4 :

- The recommendations of the SPILF (Société de Pathologie Infectieuse de Langue Francaise) in 2006 in the alveolar pneumopathies in subjects without co-morbidity :
  - o The reference ß lactamine is amoxicillin at the dose of 3g/day
  - o The alternative antibiotics : levofloxacin (LEVOFLOX 500) 1tablet / day or pristinamycin
- A study performed on 127 strains of pneumococcus isolated during 11 years in the Charles Nicolle Hospital laboratory in Tunisia, showed that during the last 10 years, the percentage of pneumococcus strains which had their sensitiveness to Penicillin G diminished, has increased :
  - o 21% of the strains had abnormal sensitivity to Penicillin G
  - o 78% had low resistance level
  - o 22% had high resistance level
- According to the SPILF recommendations, the treatment duration is 7-10 days
- Currently we tend to reduce this duration in aim to improve the observance, reduce the treatment costs and the appearance of resistance

Question 5 : When should we control the thoracic radiography?

Response 5 :

The radiological control is recommended at one month following the clinical signs normalization

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