Pulmonary TB aspects

Nodule & infiltrate
Cavern
Pneumonia

Etienne Leroy Terquem – Pierre L’Her
SPI / ISP
Soutien Pneumologique International / International Support for Pulmonology
Nodules and infiltrates

Etienne Leroy Terquem – Pierre L’Her

SPI / ISP

Soutien Pneumologique International / International Support for Pulmonology
Nodule: isolated or grouped in the upper lobes or in the apical segment of the lower lobes

Infiltrate: group of various-sized nodules with unequal dimensions. The cavitation is not always visible on the CXR. If the cavitation exists, the bacterial analysis of the sputum is generally positive: Smear +

CT-scan could show one cavitation not visible on the CXR.
What do you see on this chest x-ray?

Smear - TB
Right apex nodules

What do you see on this chest x-ray?

Smear - TB
M 47 y, cough, chronic fever, Hemoptoïc sputum
AFB negative
Probable left apical infiltrate
Smear negative TB
Man, chronic fever and weight loss
TB infiltrate
Smear neg
Good performance status,
Tuberculine skin test 5U = 15mm
Fonctionnal signs = 0, Exam = 0
Inflammatory S = 0
Expectoration : AFB - Cultures -
Good performance status,
Tuberculin skin test 5U = 15mm
Fonctionnal signs = 0, Exam = 0
Inflammatory S = 0
Expectoration: AFB - Cultures -

Probable TB infiltrate
Man, 55 y old
Past of left pleural effusion
Fever, cough,
Weight loss
Hemoptoic sputum
Man, 55 y old
Past of left pleural effusion
Fever, cough, Weight loss
Hemoptoic sputum

CXR: left retractile pleural sequela, Right nodular infiltrate.

AFB+ in sputum
Excavated nodule => AFB+
Man, heavy smoker, cough, dyspnea and worsening condition

AFB + in sputum
Bilateral pulmonary TB with excavated nodules and pneumonia
cavity. AFB positive in sputums

Bronchoscopic view: tubercular endobronchic lesion
With tubercular granulomas
In the biopsy samplings
Woman, living with a TB patient for several months. Good condition no respiratory symptoms, negative AFB
Woman, living with a TB patient for several months. Good condition no respiratory symptoms, negative AFB.

Small TB infiltrate & nodules Smear neg
M 48 y, slight fever, 1 hemoptoic sputum. Past TB history in family when he was adolescent. Good health condition

AFB negative
You do not have CT scan
Be careful
Compare right and left
If you are unsure, ask antero posterior incidence

Right retro clavicular TB infiltrate
Smear negative TB
For supra-clavicular areas
CXR with anterior posterior incidence is interesting
For supra-clavicular areas CXR with anterior- posterior incidence is interesting
CXR antero-posterior incidence for specific apex view
• Fever
• Cough
• Poor general condition

Nodule => Macronodule => Excavated nodule => Cavern

In this patient, the association of an infiltrate in the RUL
And a left cavern is highly suggestive of TB
Tuberculous nodules and infiltrates

- They are most often isolated or grouped in the upper lobes or in the apical segment of the lower lobes.
- They are difficult to see in retro-clavicular area: so always compare right and left and if doubt, ask for specific apex view.
- These lesions are often AFB –, because:
  - unexcavated
  - without communication with the bronchi and pauci bacillary
The combination of different seniority lesions (nodules, cavity, sequelae) or extrapulmonary localization is highly suggestive of TB.

Nodules and infiltrates are often AFB negative in sputum. Therefore, the risk of contamination is low (but not zero).

AFB in sputum are negative, but sometimes cultures are positive.

Although the risk of contamination is low, it is important to identify these patients and treat them... Before they become contagious.
June 2010, 25 y old nurse. As part of the recruitment examination: CXR considered as normal… The radiologist has missed a small TB infiltrate in the right upper lobe…

Compare carefully right and left apex
3 years later: Productive cough. Smear ++++ for AFB
TB cavity of the right upper lobe: very high risk of
contamination in the household and also in the workplace
Nodules and Infiltrate: Summary

- Sometimes difficult to see (small, retroclavicular areas)
- Sometimes AFB+ if cavity (not always visible on CXR)
- Mostly unexcavated and AFB –
- **They are TB on the beginning and must be treated by anti TB treatment, so they do not become contagious**
- **They are true Smear negative TB**
  
  Physicians of national TB program hesitate to treat these patients but they treat a lot of false “S - TB“ who are not real TB (bronchial cancer, inactive sequellae, bronchectasis, aspergilloma…)

*It is absolutely necessary to improve quality of CXR interpretation, especially for physicians in charge of TB program.*