

# 115 年奇美醫院胸腔內科臨床病例討論會

- 1 時間：115 年 06 月 30 日 PM 4:00-5:00
- 2 課程活動題目：胸腔影像綜合討論會 - Miliary tuberculosis
- 3 地點：奇美醫學中心 10 樓空橋討論室
- 4 主講人：柯獻欽
- 5 聯絡人：黎安騏 (06-2812811 #57132)
- 6 摘要：

## **Introduction:**

Miliary tuberculosis (TB) is the widespread dissemination of *Mycobacterium tuberculosis* from hematogenous spread. Classic miliary TB is defined as milletlike (mean 2 mm, range 1-5 mm) seeding of TB bacilli in the lung, as evidenced on chest radiograph. This pattern is seen in 1-3% of all TB cases. Miliary TB may occur in an individual organ (very rare, <5%), in several organs, or throughout the whole body (>90%), including the brain. The infection is characterized by a large amount of TB bacilli, although it easily may be missed and is fatal if untreated. Up to 25% of patients with miliary TB may have meningeal involvement. In addition, miliary TB may mimic many diseases. In some case series, up to 50% of cases are undiagnosed antemortem. Therefore, a high index of clinical suspicion is important to obtain an early diagnosis and ensure improved clinical outcomes. On autopsy, multiple TB lesions are detected throughout the body in organs such as the lungs, liver, spleen, brain, and others.

## **Chest radiographic findings:**

Findings are typical in 50% of cases. Bright spotlight helps to detect miliary nodules. Bilateral pleural effusions indicate dissemination versus localized and unilateral pleural TB. This may be a useful clinical clue. Nodules characteristic of miliary TB may be better visualized on a lateral chest x-ray (especially in the retrocardiac space).

## **Computed tomographic findings:**

This has higher sensitivity and specificity compared to chest x-ray for displaying well-defined randomly distributed nodules. High-resolution CT scan with 1-mm cuts may be even better. It is useful in the presence of suggestive and inconclusive chest x-ray findings

## **Treatment**

Early empirical therapy for suspected miliary TB is prudent. A delay of even 1-8 days contributes to a high mortality rate. Steroids are warranted for hypotension due to

presumed adrenal insufficiency after an adrenocorticotrophic hormone (ACTH) stimulation test. For susceptible organisms, the treatment period is 6-9 months. For meningitis, it is 9-12 months. For miliary TB with meningeal involvement, daily medications for the entire length of therapy are recommended. Three basic rules apply to prevent the development of entirely "doctor-made" resistant TB (average cost in the US, >\$180,000 in 1991). First, rifampin is the most important drug. In most cases, treatment is for at least 18 months without rifampin. Second, ethambutol (EMB) is used to prevent rifampin resistance if the organism is resistant to isoniazid (INH). EMB can be discontinued as soon as the organism is found to be susceptible to rifampin and INH. Third, pyrazinamide is used for the first 2 months in order to decrease the treatment time from 9 months to 6 months if the organism is susceptible to rifampin and INH. For MDR-TB, use a minimum of 1 susceptible injectable and at least 3 additional susceptible drugs to prevent development of additional resistance. Treat MDR-TB with the consultation of an expert in the care of TB. Intermittent-type therapies have not been established. If MDR-TB test results are pending, increasing the number of drugs is reasonable. For example, use 6 or 7 initial drugs, including an injectable.