Calcified ranke complex

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RESUMEN

La tuberculosis es una bacteria de crecimiento lento que causa hipersensibilidad. El foco primario de infección es el complejo de Ghon. La combinación de ganglios linfáticos calcificados y focos de Gohn se conoce como complejo de Ranke. Con frecuencia este complejo es la única evidencia radiológica de diseminación hematógena de la bacteria.

Palabras clave. *Mycobacterium tuberculosis*. Hipersensibilidad. Ganglios linfáticos calcificados.

ABSTRACT

Tuberculosis is a slow growing microbe that causes hypersensitivity. The initial focus of primary infection is the Ghon complex. The combination of the Ghon focus and the enlarged lymph nodes form the primary complex the Ranke. Frequently, the only radiological evidence of hematogenous bacteria dissemination is the so-called Ranke complex.

Key words. *Mycobacterium tuberculosis*. Hypersensitivity. Calcified lymph nodes.

CLINICAL CASE

Thirty-four year old female with cough and shortness of breath. Chest X-ray showed calcified left parahiliar and paraaortic lymph node, suggestive of pulmonary tuberculosis (TB). Her sputum smear was negative. The radiological diagnosis was pulmonary tuberculosis with calcified Ranke complex (Figure 1).

Mycobacterium tuberculosis is a slow growing microbe with generation times between 12 and 24 h. In 1993 the World Health Organization (WHO) declared TB a "global emergency": 1.7 billion of people were infected with *M. tuberculosis*, every year 3 million of people died from TB, and approximately 8 million new cases occurred each year.[1]

TB is a respiratory tract infection that occurs due to inhalation of droplets from infected people. These droplets (2–10 μm) are produced when patients with pulmonary or laryngeal TB sneeze, cough, speak, or sing. These droplets laden with a few bacilli (1-4 μm) and are carried by cilia to the terminal bronchioles. The bacteria often colonize the best ventilated areas of the lungs. Local alveolar macrophages orchestrate a complex immunopathological process and these results, after a few weeks, in

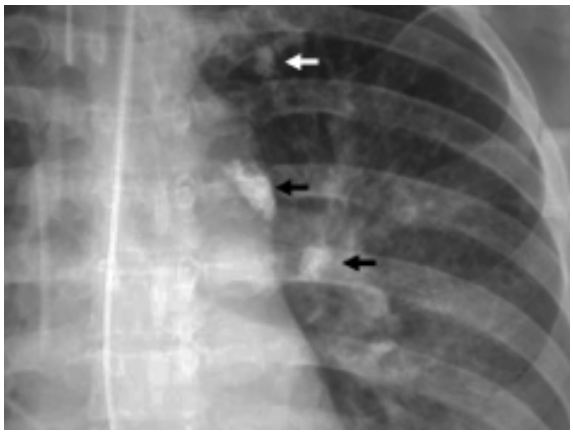

Figure 1. Calcified Ranke complex characterized by calcified left parahiliar and paraaortic lymph node (black arrows) associated with a calcified left apical scar, Simon's foci (white arrow).

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formation of epitheloid granulomas, which can develop into larger tuberculomas.

Delayed hypersensitivity manifests approximately 4-10 weeks after initial infection. At this moment, the tuberculin reaction becomes positive. The macroscopic hallmark of hypersensitivity is the development of caseous necrosis in the pulmonary focus and/or in the involved lymph nodes. The primary parenchymal focus is known as the Ghon focus. The combination of the Ghon focus and the enlarged draining lymph nodes form the primary Ranke complex or Ghon complex.[2,3] The radiological counterpart of these silent and healed lesions is a calcified pulmonary focus and/or mediastinal or hilar node. Proof of hematogenous dissemination can be calcifications in the lung apices ("Simon's foci"). Frequently, the only radiological evidence is the so-called Ranke complex, the combination of a parenchymal scar (whether calcified or not), the Ghon lesion, and calcified hilar and/or paratracheal lymph nodes.[4]

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