

TUBERCULOSIS AND LUNG DISEASE

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Timing of Pott's disease for proper surgical treatment: Traditional open surgery and minimally invasive, anterior and posterior approach

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The physiopathology of tuberculosis has several phases, initially by infection, with activation of T CD4+ CD8+ specific for tuberculous antibodies, followed by an activation and enhancement of macrophages from INF-gamma, IL-2 and TNF-alpha that originate from a tuberculous granuloma, formed in the core by macrophages and from the infectious tissue that is easily aspirated or drained. Subsequently, the macrophages that form the granuloma wall (Giant Cells of Langerhans) are bound to death and together with the necrotic fluid tissue within the granuloma form an amorphous mass, and begins the caseosophageal phase, which has adherent properties on the adjacent tissues and more difficult to remove surgically, following the activation of fibroblasts around the casein granulomatous mass with collagen production and fibrotic tissue. These phases with their timing (between 2 and 4 weeks) are well-known and identifiable at the pulmonary level, less in bone and vertebral bone. Spongy bone tissue for trabecular anatomy allows a rapid evolution of the Colliquin process. The cortical component of the vertebral body, more rigid and compact, facilitates the blocking phase of Langerhans cell granuloma. When the infection also involves the vertebral walls, the vertebral collapse causes skeletal instability, and aggravation of the pain. At this point there is the evolution of infection from the next phase, caseosa. Magnetic resonance,

especially if with contrast medium, is a valid examination that can detect the infected tissue but does not have any valid information about tissue texture and metabolic activity. A useful diagnostic evaluation is TC-PET that can provide us with information about the metabolic activity of the affected tissue, allowing to interpret the physiopathological phase. The timing of tuberculous pathophysiology of vertebral bone tissue should be considered of primary importance, as well as the risk of fracture and nervous involvement in the choice of the surgical solution. Specifically, a combined approach (abscess drainage and possibly bone grafting) and back (stabilization with peduncle screws) in a patient with vertebral collapse and nerve involvement is considered useful within the first weeks of the onset of the disease when the colliquin phase is still present; in these patients that have spent more time and already evolved the caseosa-fibrotic phase infection, a single back approach (peduncle stabilization open or minimally invasive and channel decompression) is preferable.

Speaker Biography

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