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Mycobacterial Diseases

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Opinion Article

Tuberculosis and Cervical Lymphadenopathy: A Comprehensive Overview

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DESCRIPTION

Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*. It primarily affects the lungs but can also target other parts of the body, leading to various manifestations and complications. One such complication is cervical lymphadenopathy, where the lymph nodes in the neck become swollen and tender. In this article, we will explore the connection between tuberculosis and cervical lymphadenopathy, focusing on its causes, symptoms, diagnosis, and treatment options.

Causes and pathophysiology

Tuberculosis is typically transmitted through the air when an infected individual coughs, sneezes, or speaks, releasing respiratory droplets containing the bacteria. When these droplets are inhaled, the bacteria can infect the lungs and initiate the primary infection. From there, the bacteria may spread through the bloodstream or lymphatic system to other parts of the body, including the lymph nodes in the neck. Cervical lymphadenopathy in tuberculosis occurs when the infection reaches the lymph nodes located in the neck region. The lymph nodes become enlarged and inflamed as they mount an immune response to contain the infection. The bacteria can either reach the lymph nodes directly or be transported by lymphatic vessels from other infected areas, such as the lungs.

Symptoms and clinical presentation

Cervical lymphadenopathy associated with tuberculosis typically presents with the following symptoms:

Enlarged lymph nodes: The most prominent symptom is the presence of swollen lymph nodes in the neck, which can vary in size and tenderness.

Pain and tenderness: The affected lymph nodes may be painful to touch, causing discomfort and tenderness.

Redness and warmth: The skin over the affected lymph nodes may appear reddened and feel warm to the touch.

Fluctuation: In some cases, the lymph nodes may contain fluid, leading to a fluctuant mass that can be felt upon palpation.

Systemic symptoms: Other signs and symptoms of active tuberculosis, such as fatigue, night sweats, weight loss, and a persistent cough, may be present.

Diagnosis

To diagnose tuberculosis-related cervical lymphadenopathy, healthcare providers employ a combination of clinical assessment, laboratory tests, and imaging studies. The diagnostic process may include the following steps:

Medical history and physical examination: The healthcare provider will inquire about the patient's symptoms, medical history, and possible exposure to tuberculosis. They will perform a thorough physical examination, focusing on the neck region to assess the size, consistency, tenderness, and mobility of the lymph nodes.

Tuberculin Skin Test (TST): The TST, also known as the Mantoux test, involves injecting a small amount of Purified Protein Derivative (PPD) from the tuberculosis bacterium into the patient's forearm. A positive reaction, indicated by a raised bump at the injection site, suggests exposure to tuberculosis but does not differentiate between active and latent infection.

Interferon-Gamma Release Assays (IGRAs): These blood tests measure the release of interferon-gamma, a substance released by immune cells in response to Mycobacterium tuberculosis. IGRAs, such as the QuantiFERON-TB Gold test, help determine if there has been exposure to tuberculosis.

Chest X-ray: A chest X-ray is performed to check for signs of tuberculosis infection in the lungs, which can help confirm the diagnosis and assess the extent of the disease.

CONCLUSION

Tuberculosis and cervical lymphadenopathy are interconnected conditions that can occur when *Mycobacterium tuberculosis* infects the lymph nodes in the neck region. Cervical lymphadenopathy is a common manifestation of tuberculosis and is characterized

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by swollen, tender lymph nodes in the neck. It is crucial to recognize the symptoms and promptly diagnose and treat tuberculosis-related cervical lymphadenopathy to prevent complications and further transmission of the disease.