



Challenges Associated with Diagnosing Pulmonary Tuberculosis (TB) in a Sickle Cell Disease Patient

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DESCRIPTION

Tuberculosis (TB) is an infectious bacterial disease that affects the lungs and can spread from person to person when an infected person coughs or sneezes. It is one of the top 10 causes of death worldwide and it is estimated that 1/3 of the world's population has latent TB. Although TB can be treated, it can become more difficult to treat in people with certain medical conditions, such as Sickle Cell Disease (SCD). People with SCD have an increased risk of developing pulmonary TB due to their weakened immune systems. This puts them at greater danger of developing severe or life-threatening symptoms and complications from this infection. The combination of SCD and pulmonary TB can have a major negative impact on a person's overall health, leading to difficulty breathing, frequent hospitalizations, decreased quality of life, and even death in some cases.

Pulmonary Tuberculosis (PTB) is a serious infectious disease that affects the lungs and can be exacerbated by an underlying sickle cell disorder. Symptoms of PTB include persistent coughing, fever, night sweats, and chest pain. Additional common symptoms may be fatigue, loss of appetite, unexplained weight loss, chills, and bloody sputum. In some cases, TB may cause pleurisy and pleural effusions with chest pain. It is important to note that individuals with sickle cell disorders may have increased vulnerability to pulmonary infections such as tuberculosis due to their weakened immune systems. The diagnosis and treatment of pulmonary tuberculosis in patients with sickle cell disorder can be difficult as a result. The precise diagnosis requires careful consideration of clinical history along with laboratory tests such as chest radiography, sputum tests for Acid-Fast Bacilli (AFB), Computed Tomography scans (CT), and bronchoscopy culture. Furthermore, it is recommended that these patients undergo prophylactic preventive therapy for both TB infection and active disease for their whole life as part of their regular medical care plan. Due to the serious nature of this condition, it is essential that patients seek medical attention

when they experience any of the above mentioned symptoms or if they are advised to take preventive therapy measures. When properly treated according to an established protocol based on investigations results and clinical evaluation led by an experienced medical team, pulmonic TB can often be successfully managed in individuals with sickle cell disorder.

Patients with Sickle Cell Disease (SCD) are at an increased risk for complications due to comorbidities, including a heightened susceptibility to developing infections. As such, it is important to diagnose and treat any infectious diseases promptly and accurately. The primary challenge in diagnosing pulmonary Tuberculosis (TB) in SCD patients is that the signs and symptoms of TB may not be as apparent. This is because those suffering from SCD already have a compromised respiratory system due to their condition. The most common symptom of TB is a persistent cough, but this symptom tends to be lessened or absent in SCD patients. Other signs of infection such as fever, night sweats, and weight loss may also be present but can easily be confused with other co-existing conditions such as chronic anemia or other infections. Additionally, traditional laboratory tests used for diagnosis may not yield definitive results due to the presence of sickle cells in the sputum sample which appears similar to the microorganisms responsible for causing TB. To ensure the accurate diagnosis of TB in SCD patients, physicians must take into account their unique vulnerabilities when examining their physical condition. It is crucial that they conduct a thorough medical history assessment and physical examination to detect any subtle signs or symptoms that could point towards an active infection. Chest X-rays should also be performed on a regular basis to monitor for any changes that might indicate the presence of TB infection. The treatment for pulmonary TB in a patient with sickle cell disease starts with preventing the spread of infection. Treatment of pulmonary TB involves both medical and social interventions. The medical interventions generally involve medication, such as antibiotics and other drugs used to treat the underlying disorder.

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