Streptococcus Pneumoniae Disease

Streptococcus pneumoniae is a gram-positive, lancet-shaped diplococci that is a major cause of pneumonia, meningitis, and otitis media in individuals. Pneumonia caused by this bacterial pathogen causes a rusty sputum, which can help with clinical diagnosis. The bacteria can also cause acute bacterial sinusitis, and can cause sepsis in patients with splenectomies.



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Signs and Symptoms

Sickle Cell Anemia
Sickle Anemone
Patients with sickle cell anemia, especially children, are at risk for sepsis due to Streptococcus pneumoniae.

Sepsis in Patients with Splenectomy
Sepsis-snake with Spleen
Sepsis refers to a systemic inflammatory response caused by an infection. Patients typically present with elevated heart rate, high respiratory rate, leukocytosis and fever. Patients with splenectomies are especially prone to sepsis caused by Streptococcus pneumoniae. Therefore, all patients without spleens should be vaccinated against Streptococcus pneumoniae. Patients with sickle cell anemia are also at high risk, due to autosplenectomy.

Rusty Sputum
Rusty Railing, with sputum
Streptococcus pneumoniae classically causes rusty colored sputum, which can help identify the pathogen.

MOPS
Mop
The MOPS mnemonic represents meningitis, otitis media, pneumonia and sinusitis.

Meningitis
Men-in-tights
Meningitis is inflammation of the meninges, which covers the brain and spinal cord. Common symptoms are headache, neck stiffness, photophobia and possibly altered consciousness. Because of the proximity to the brain and spinal cord, this condition is a medical emergency that needs to be evaluated promptly. Streptococcus pneumoniae is one of the most common causes of bacterial meningitis in adults.

Otitis Media
Oats-out-of-ear
Otitis media is inflammation of the middle ear, which causes pressure to build up behind the tympanic membrane and cause intense pain. If severe or untreated, the increased pressure can cause the tympanic membrane to rupture. Streptococcus pneumoniae is the most common bacterial pathogen causing otitis media.

Pneumonia
Nude-Mona
Pneumonia is an inflammatory condition of the alveoli in the lung, typically associated with fever, chest symptoms and consolidation on chest X-ray.

Sinusitis
Sinner
Sinusitis is inflammation of the paranasal sinuses. Streptococcus pneumoniae can cause an acute sinusitis that is usually precipitated by an upper respiratory tract infection.

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