Pseudomonas Aeruginosa Disease

Pseudomonas aeruginosa is a gram-negative, aerobic bacilli that has been increasingly recognized as an opportunistic human pathogen that can cause a wide variety of infections including infections in burn patients, osteomyelitis, endocarditis, pneumonia, and urinary tract infections. P. aeruginosa most commonly infects the pulmonary tract, causing a diffuse bronchopneumonia in patients. Individuals with cystic fibrosis are especially at risk for Pseudomonas infections in the lungs. It is the most common cause of infections in burn injuries and can lead to hemorrhage and necrosis of infected tissue. It is also a common cause of hot tub folliculitis, which is caused by lack of proper, periodic attention to water quality. This organism is a frequent colonizer of medical devices including catheters and can cause nosocomial urinary tract infections. It is also frequently associated with osteomyelitis in IV drug users and also puncture wounds of the foot, thought to result from exposure to the organism via the foam padding found in tennis shoes. Diabetic patients are particularly at high risk for osteomyelitis occurring via this mechanism. This organism is implicated in corneal infections in contact lens users and can cause endocarditis when in the blood stream. Pseudomonas is also associated with purple-black skin lesions called ecthyma gangrenosum.



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Signs and Symptoms

Pneumonia
Nude-Mona
This organism most commonly infects the pulmonary tract, causing a diffuse pneumonia.

Cystic Fibrosis
Sisters with Fibrous-sacks
P. aeruginosa most commonly infects the pulmonary tract, causing a diffuse bronchopneumonia in patients. Individuals with cystic fibrosis are especially at risk for Pseudomonas infections in the lungs.

Burn Wounds
Burned-guy on fire
Pseudomonas aeruginosa is the most common cause of infections in burn injuries and can lead to hemorrhage and necrosis of infected tissue.

Hot tub folliculitis
Hot tub Hair-follicles-on-fire
This organism is a common cause of hot tub or swimming pool folliculitis. Patients often present with pruritic follicular lesions on parts of the body immersed in water.

Urinary Tract Infections
Kidney-and-bladder-on-Fire
Pseudomonal UTIs are often acquired in the hospital and associated with catheterization, instrumentation, or surgery.

Osteomyelitis associated with IV drug use
Skeleton-in-flames injecting IV Drugs
IV drug use predisposes patients to osteomyelitis caused by Pseudomonas aeruginosa.

Osteomyelitis from Shoe Puncture Wound
Syringe through rubber boot on skeleton
Pseudomonas osteomyelitis is frequently associated with puncture wounds of the foot, thought to result from direct inoculation with the organism via the foam padding found in tennis shoes.

Diabetic Osteomyelitis
Dyed-bead-pancreas Poking Skeleton-in-flames
Diabetic patients are particularly at high risk for Pseudomonas osteomyelitis, typically in the form of diabetic foot injections.

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Corneal Infections in contact lens users

Contact-case with Contacts

This organism is implicated in corneal infections in contact lens users that do not frequently change their contact solution and contact cases. Because the cornea is difficult to reach by the immune system, Pseudomonas can cause a rapidly progressive and destructive lesion when introduced into the eye. Symptoms include pain, redness, swelling and impaired vision.

Endocarditis

Donut-heart-card

Pseudomonas aeruginosa can infect native heart valves in individuals who are IV drug abusers and can also infect prosthetic heart valves.

Ecthyma Gangrenosum

Ecthyma-egg Gang-of-green

A skin infection caused by Pseudomonas aeurginosa that presents with a necrotic center with a surrounding halo of erythema. This lesions occurs when the organism invades the blood vessels and causes infarctions and tissue necrosis via exotoxin A.

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