Burkholderia



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Characteristics

Gram-Negative
Graham-cracker Negative-devil
Burkholderia species are gram-negative, with no retention of violet stain in gram staining. This species has two clinical pathogens: B. cepacia complex, which manifests with an opportunistic infection, and B. pseudomallei, which manifests with melioidosis.

Bacilli
Rod
This organism has a bacilli shape. It means that it is rod-shaped.

Catalase-Positive
Positive-Cat
Burkholderia is a catalase-positive organism, meaning it can produce the enzyme catalase, which catalyzes the breakdown of hydrogen peroxide into water and oxygen.

Oxidase Positive
Ox-daisy
Burkholderia is oxidase-positive, which means it can produce cytochrome c oxidase that works on the electron transport chain. This bacteria can use oxygen as a terminal electron acceptor in respiration, a crucial process for generating energy for the cell.

Non-lactose Fermenting
Nun-Milk-carton Ferns
Burkholderia is not able to ferment lactose as an energy source. This fact can be seen in its growth as white colonies on MacConkey agar.

Clinical Manifestations

Pneumonia
Nude-Mona
Burkholderia infection can present with encephalomyelitis, skin abscesses, and pneumonia.

Associations

Cystic Fibrosis
Sisters with Fibrous-sacks
Patients with cystic fibrosis are susceptible to Burkholderia infections, particularly those caused by the Burkholderia cepacia complex.

Considerations

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Often Multidrug Resistant

Drugs Wearing Resistant-bandana

Burkholderia species are often multidrug resistant, which makes them particularly difficult to treat.

Contraindication

Contraindication to Undergo Lung Transplantation

Lung Train-plant Caution-tape

A patient infected with Burkholderia is contraindicated from undergoing lung transplantation due to its poor clinical outcome.

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