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THE BRIEF CASE

Closing the Brief Case: Ventilator-Associated *Corynebacterium accolens* Pneumonia in a Patient with Respiratory Failure Due to COVID-19

Benjamin M. Liu,[a] Emily M. Beck,[b,c] Mark A. Fisher[a,d]

[a]Department of Pathology, University of Utah School of Medicine, Salt Lake City, Utah, USA
[b]Division of Pulmonary Medicine, Department of Medicine, University of Utah, Salt Lake City, Utah, USA
[c]Division of Pulmonary Medicine, Department of Medicine, George E. Wahlen Department of Veterans Affairs, Salt Lake City, Utah, USA
[d]ARUP Laboratories, Salt Lake City, Utah, USA

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ANSWERS TO SELF-ASSESSMENT QUESTIONS

1. In which body site(s) can *Corynebacterium accolens* be frequently found in humans?
    a. Urinary tract
    b. Upper respiratory tract
    c. Gastrointestinal tract
    d. Genital tract

    Answer: b. As an inhabitant of the upper respiratory tract, *C. accolens* is one of the most common *Corynebacterium* species isolated from the nasal cavity of healthy people.
2. Which of the following phenotypic characteristics fit with identification of *Corynebacterium accolens?*
    a. Catalase positive and lipophilic
    b. Catalase negative and lipophilic
    c. Catalase positive and nonlipophilic
    d. Catalase negative and nonlipophilic

    Answer: a. The majority of medically relevant *Corynebacterium* species are catalase positive and nonmotile. Some *Corynebacterium* species, e.g., *C. accolens*, *C. jeikeium*, and *C. urealyticum*, are lipophilic, and growth is enhanced on media supplemented with an additional lipids.
3. Which of the following diagnostic tests can yield the most reliable identification of *Corynebacterium accolens?*
    a. MALDI-TOF MS
    b. CAMP reaction
    c. Vitek 2 ID-ANC card
    d. Serologic tests

    Answer: a. Conventional biochemical methods are suboptimal for identifying *C. accolens*, which may be misidentified as *C. macginleyi* with the API Coryne test, and as *Propionibacterium* (*Cutibacterium*) *acnes* with the Vitek 2 ID-ANC card. MALDI-TOF MS is a robust and cost-effective tool for rapid and accurate species-level identification of *Corynebacterium* spp., including *C. accolens*.

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Editor Carey-Ann D. Burnham, Washington University School of Medicine

Address correspondence to Mark A. Fisher, mark.fisher@aruplab.com.

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TAKE-HOME POINTS

- *Corynebacterium accolens* are aerobic, asporogenous, catalase-positive, lipophilic Gram-positive rods, which typically exhibit diphtheroid morphology.
- As an inhabitant of the upper respiratory tract, *C. accolens* is one of the most common *Corynebacterium* species isolated from the nasal cavity of healthy people.
- *C. accolens* is increasingly recognized as a medically relevant *Corynebacterium* species and associated with a variety of human diseases, including ventilator-associated pneumonia.
- MALDI-TOF MS is a robust and cost-effective tool for rapid and accurate species-level identification of *Corynebacterium* spp., including *C. accolens*.
- *C. accolens* isolates are generally susceptible to a broad range of antibiotics, including penicillins, ceftriaxone, gentamicin, vancomycin, and linezolid.