Closing the Brief Case: Wound Infection with *Plesiomonas shigelloides* following a Freshwater Injury

(See page 1180 in this issue [[doi:10.1128/JCM.02651-15](https://doi.org/10.1128/JCM.02651-15)] for case presentation and discussion.)

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ANSWERS TO SELF-ASSESSMENT QUESTIONS

1. Which oxidase-positive, indole-positive organism is more commonly associated with freshwater injuries?

- (a) *Stenotrophomonas maltophilia*.
- (b) *Aeromonas hydrophila*.
- (c) *Vibrio vulnificus*.
- (d) *Edwardsiella tarda*.

Answer: b. While all of the organisms listed have been isolated from wounds associated with water injuries, the organism most commonly associated with freshwater injuries is *A. hydrophila*. *V. vulnificus* is also oxidase positive and indole positive, but it is primarily associated with brackish water or saltwater injuries. *S. maltophilia* is oxidase negative and indole negative, and *E. tarda* is oxidase negative and indole positive.

2. If a nonhemolytic, non-lactose-fermenting organism isolated from a stool culture agglutinates with *Shigella sonnei* antisera, which assay can be used to differentiate quickly between *Shigella* and *P. shigelloides*?

- (a) Growth on MacConkey agar.
- (b) Growth on Hektoen enteric agar.
- (c) Oxidase.
- (d) Urease.

Answer: c. *P. shigelloides* is oxidase positive, while *Shigella* is oxidase negative.

3. *P. shigelloides* is intrinsically resistant to which class of antibiotics?

- (a) Penicillins.
- (b) Cephalosporins.

(c) Fluoroquinolones.

(d) Aminoglycosides.

Answer: a. *P. shigelloides* is intrinsically resistant to penicillins due to beta-lactamase production. It is typically susceptible to the other classes listed but may acquire resistance.

TAKE-HOME POINTS

- *P. shigelloides* is beta- or nonhemolytic on blood agar and is positive for oxidase, indole, motility, ornithine and lysine decarboxylases, and arginine dihydrolase. Most isolates do not ferment lactose, but rare isolates may ferment lactose.
- The majority of *P. shigelloides* infections occur in the summer months in tropical and subtropical regions.
- *P. shigelloides* is most commonly associated with gastrointestinal illness, which requires a high infectious dose. Extraintestinal infections are rare but do occur.
- Gastrointestinal infections typically do not require antimicrobial therapy, but if required, fluoroquinolones or trimethoprim-sulfamethoxazole are typically considered the therapy of choice.
- *P. shigelloides* is intrinsically resistant to penicillins due to beta-lactamase production.

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