

Successful liver transplantation from donor with *Plesiomonas shigelloides* sepsis after freshwater drowning: case report and review of literature on gram-negative bacterial aspiration during drowning and utilization of organs from bacteremic donors.

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Abstract

BACKGROUND:

Plesiomonas shigelloides is a freshwater, non-fermentative gram-negative bacillus associated with diarrheal disease. Rare cases of invasive infection in human beings usually involve immunosuppressed individuals.

METHODS:

We report a patient who underwent successful liver transplantation (LT) using a graft from a 14-year-old boy who had drowned in a freshwater lake. PUBMED was searched for both reported drowning victims with sepsis and outcomes of LT using organs from infected donors.

RESULTS:

Our patient received prophylactic piperacillin-tazobactam, which was switched to cefepime one day after transplantation when gram-negative bacteria grew in blood cultures of the donor. The next day, the organism was identified as *P. shigelloides* resistant to third- and fourth-generation cephalosporins; ciprofloxacin was given for seven days, and surveillance cultures remained negative. After an uneventful course the patient was discharged on day 10 after LT without signs of infection and is alive with a well-functioning graft. Literature review revealed one case of *P. shigelloides* in a potential allograft, in which the organism was isolated from heart valves of a drowning victim; the organs were discarded. Reports of freshwater drowning show that bacteremia is universally found post-mortem. Isolated pathogens correspond to specimens from the drowning site, with *Aeromonas* spp. being the most common and many other microorganisms described anecdotally. Livers from infected donors have been used, in most cases with good results if the recipient and, when possible, donor were treated appropriately; however, cases of fatal pathogen transmission have been reported.

CONCLUSION:

This is the first reported case of a LT using a graft from a donor with *P. shigelloides* sepsis. Drowning victims should be considered potentially infected with rare pathogens and therefore represent extended-criteria donors.

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