The findings of the patient’s physical examination were essentially normal, except for a temperature of 39.5°C (103°F) and generalized abdominal tenderness. There was no temperature-pulse deficit. Laboratory tests revealed a normal WBC count and differential and normal serum chemistry findings, with the exception of elevated alanine and aspartate aminotransferase levels (103 and 146 U/L, respectively). Blood and stool samples were obtained for culture, and stool samples were obtained for detection of ova and parasites. The patient started receiving intravenous fluids.

On the second day of hospitalization, blood cultures revealed an aerobic gram-negative bacillus. On further questioning, the patient admitted that she had ingested a dish made with goat blood 1 day before the onset of symptoms. She started receiving intravenous ciprofloxacin. Examination of stool specimens was remarkable for leukocytes and Blastocystis hominis. The results of a hepatitis profile were negative. An additional blood culture yielded negative results, and the bacillus on the original blood culture was identified as B. (Weeksella) zoohelcum, which was susceptible to all antibiotics in the panel tested. Her symptoms resolved in 2 days. Therapy was switched to oral ciprofloxacin, which she took for 7 days. She tested negative for HIV antibody, and CD4 cell count and serum immunoglobulin levels were normal.

B. zoohelcum (previously known as Weeksella zoohelcum) is a nonfermentative, gram-negative bacillus [1]. It is part of the normal oral flora of dogs, cats, and some other animals. Most clinical isolates come from infected animal bite wounds [2, 3]. To our knowledge, our patient represents the first case of foodborne transmission of the bacillus and the third case of invasive disease caused by B. zoohelcum. She was not immunocompromised. Her only risk factor was that she consumed a dish prepared with goat blood. The 2 previously reported cases of invasive disease were a case of meningitis that followed a dog bite [4] and a case of septicemia that followed prolonged exposure to a cat [5]. Our case demonstrated that dog bites or contact with a cat may not be the only portal of entry for B. zoohelcum, but that ingestion of contaminated food may also be a possible source of infection. Weeksella- or Bergyella-like, pigmented, gram-negative bacteria susceptible to penicillin G have been isolated frequently during routine bacteriological analyses of milk products, meat products, canned food, and surface waters [6]. Therefore, Bergyella species can survive in food and can be a source of bacteremia.

One might ask why more infections have not been identified or reported. It is possible that this organism has been misidentified by microbiology laboratories as another species or has been considered a culture contaminant. B. zoohelcum is a nonfermentative, nonmotile, aerobic, gram-negative rod and is catalase, oxidase, and indole positive [4, 5]. B. zoohelcum and a closely related species, Weeksella virosa, are both susceptible to penicillin, a feature that differentiates them from other similar bacteria, such as Flavobacterium and Sphingobacterium species. The 2 penicillin-susceptible species, B. zoohelcum and W. virosa, can be differentiated from each other by a urease test and polymyxin B susceptibility; the former is rapid urease positive and polymyxin B resistant, whereas the later is urease negative and polymyxin B susceptible. There is no clear guidance in the literature on the antibiotic of choice for treatment of B. zoohelcum infection. However, it is highly susceptible to antibiotics and can be easily treated with a β-lactam (e.g., penicillin or cephalosporin) or a quinolone [3].

With the increasing recognition of infectious diseases caused by relatively unusual pathogens that have an animal source, both physicians and microbiologists need to be familiar with animal flora and the potential for human transmission. Awareness of such organisms will lead to early identification and treatment of these cases.
Rifampin and Pyrazinamide for Treatment of Latent Tuberculosis Infection

Sir—The article by McElroy et al. [1] regarding rates of liver injury, hospitalization, and death associated with the use of rifampin and pyrazinamide for treatment of latent tuberculosis infection (LTBI) caught my attention. Table 5 in that article summarizes 9 separate studies that examined hepatotoxicity and hospitalization rate with the use of pyrazinamide and rifampin for LTBI. The authors showed data regarding the rates of aspartate aminotransferase (AST) levels >5 times the upper limits of normal in patients treated with rifampin and pyrazinamide. As an author of one of the referenced studies [2], I was puzzled. Our study defined hepatotoxicity not by AST level, but by ALT level. Where did McElroy and colleagues get their data regarding AST levels? Another one of the referenced studies [3] similarly defined hepatotoxicity in terms of an elevation in the ALT—not AST—level. Again, where did McElroy and colleagues get their data regarding AST levels?

Although both AST and ALT levels are elevated in patients who experience hepatotoxicity from drugs, ALT is an enzyme more specific for the liver [4]. The error regarding AST levels is more than just semantics.

Acknowledgments

Potential conflicts of interest. All authors: no conflicts.

Paul P. Cook
Brody School of Medicine at East Carolina University, Greenville, North Carolina

References


Reply to Cook

Sir—We appreciate the careful reading by Cook [1] of our report [2]. Table 5 was provided in our discussion section as a summary of 9 published reports of adverse events that occurred after treatment of latent tuberculosis infection (LTBI) with a combination of rifampin and pyrazinamide (RZ). The 9 reports provided numbers of patients who experienced at least grade 3 hepatotoxicity, defined as an aspartate aminotransferase (AST) level, an alanine aminotransferase (ALT) level, or simply an aminotransferase (AT) level greater than 5 times the upper limit of normal (ULN). The criteria for categorizing severe or potentially life-threatening hepatotoxicity includes the use of either of these AT levels [3].

In accordance with the convention used in Centers for Disease Control and Prevention guidelines for the monitoring of patients receiving RZ for treatment of LTBI [4], the correct wording for the fifth column heading of table 5 should have been “AT level >5 times ULN” rather than “AST level >5 times ULN.”

Although the studies by McNeil et al. [5] and Priest et al. [6] indeed defined severe hepatotoxicity using the ALT level (and not the AST level), all 3 randomized trials of RZ treatment [7–9] and the largest study of hepatotoxicity associated with isoniazid treatment of LTBI [10] used AST levels only. Although our use of AST may have resulted in lower specificity for RZ- or isoniazid-induced hepatotoxicity, the increased sensitivity was warranted given the safety issue being considered.

Acknowledgments

Potential conflicts of interest. All authors: no conflicts.

Peter D. McElroy,* Kashef Ijaz,† and Thomas R. Navin†

Divisions of *HIV/AIDS Prevention and †Tuberculosis Elimination, National Center for HIV/STD and TB Prevention, Centers for Disease Control and Prevention, US Public Health Service, Department of Health and Human Services, Atlanta, Georgia

References


5. Reprints or correspondence: Dr. Peter D. McElroy, Brody School of Medicine, East Carolina University, 3001 Agee Pkwy, Greenville, NC 27858 (paul_mc_elroy@yahoo.com).

6. Clinical Infectious Diseases 2006; 42:892–92 © 2006 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2006/4206-0032 $15.00

7. Clinical Infectious Diseases 2006; 42:892–92 © 2006 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2006/4206-0031 $15.00

8. Downloaded from https://academic.oup.com/cid/article-abstract/42/6/891/287222 by guest on 28 November 2018

9. Downloaded from https://academic.oup.com/cid/article-abstract/42/6/891/287222 by guest on 28 November 2018

10. Downloaded from https://academic.oup.com/cid/article-abstract/42/6/891/287222 by guest on 28 November 2018