

An Interesting Case of *Empedobacter Brevis* Bacteremia After Right Knee Cellulitis

Sir,

A 65-year-old obese white female, with a medical history significant of hypertension, degenerative joint disease, chronic obstructive pulmonary disease, Brown-Séquard syndrome with right lower extremity weakness, a right total knee replacement 6 weeks prior to admission, presented to the Emergency Room with right knee cellulitis and discharged home on cephalexin. On the following morning, she returned to the hospital after a fall at home resulted in a laceration in her right knee with serosanguineous drainage.

On initial examination, patient was afebrile with temperature of 98, blood pressure 120/56, respiratory rate 18 and heart rate 63. On physical exam, her right knee was swollen, red and tender to touch, with a sutured lacerated wound oozing serosanguineous drainage. Laboratory workup, which included complete blood count, serum chemistry, urine analysis and culture, were negative. Magnetic resonance imaging (MRI) showed a fractured right patella. Blood culture drawn 2 days prior from her first ER visit came positive for a gram negative bacteria, identified as *Empedobacter brevis*. The microbiology was sensitive to most of the antibiotics. She was treated with Levaquin for 10 days and that resulted in negative blood cultures and clinical response.

Empedobacter brevis formerly known as *Flavobacterium brevis* are gram-negative, and short nonmotile rods, which are widely distributed in the environment both in soil and water.^[1] They are also found in plants, raw meat products, and in hospital environments, which could lead to rare nosocomial infections. They are obligate aerobes, which form a yellow colony when grown on the solid medium. These bacteria are also known to be oxidase-negative, catalase-negative, and phosphatase-positive. Therapies with β -lactam antibiotics should be used with caution as β -lactamase gene *blaEBR-1* has been associated with *E. brevis*, which has been shown to reduce susceptibility to extended spectrum cephalosporins and carbapenems.^[2] In our patient, the primary source of infection was not found but the source could have been; (a) her fall with laceration of knee; (b) solutions used to irrigate her knee in the ER;

and (c) improper sterilization of the instruments used to suture the alteration.

Flavobacteriaceae family known as yellow colony forming bacteria was divided based on their genetic variation into *Flavobacterium*, *Chryseobacterium*, *Myroides*, and *Empedobacter* with *Empedobacter brevis* as a separate genetic variant.^[3] To our knowledge, there have been only three reported cases of *Empedobacter brevis* infection. First, a case series of an outbreak of endophthalmitis^[4] secondary to possible contamination, second, a case of anaphylactoid purpura that was treated with minocycline,^[5] and third, a case of meningitis in a canine.^[6] This is the first case of *Empedobacter brevis* bacteremia in a human adult that has ever been reported in the medical literature.

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REFERENCES

1. Jooste PJ, Hugo CJ. The taxonomy, ecology and cultivation of bacterial genera belonging to the family *Flavobacteriaceae*. *Int J Food Microbiol* 1999;53:81-94.
2. Bellais S, Girlich D, Karim A, Nordmann P. EBR-1, a Novel Ambler subclass B1 β -Lantamas from *Empedobacter brevis*. *Antimicrob Agents Chemother* 2002;46:3223-7.
3. Vandamme P, Bernardet JF, Segers P, Kersters K, Holmes B. New perspectives in the classification of the flavobacteria: Description of *Chryseobacterium* gen. nov., *Bergeyella* gen. nov., and *Empedobacter* nom. rev. *Int J Syst Bacteriol* 1994;44:827-31.
4. Janknecht P, Schneider CM, Ness T. Outbreak of *Empedobacter brevis* endophthalmitis after cataract extraction. *Graefes Arch Clin Exp Ophthalmol* 2002;240:291-5.
5. Nishio E. A case of Anaphylactoid purpura suggested to *Empedobacter* (flavobacterium) *brevis* infection concerned. *Arerugi* 2010;59:558-61.
6. Duong M, Mourier K, Peyrard N, Magnin V, Couillaud G, Chavanet. Two cases of post-neurosurgical meningitis due to *Chryseobacterium* (flavobacterium) *species*. *Médecine et Maladies Infectieuses*, 7:8:802-3.

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