

Interventional radiology guided bone biopsy culture grew white mucoid colonies in blood agar (Panel B) and Gram stain revealed Gram negative rods (Panel C). These Gram negative rods were motile, produced catalase, and did not ferment lactose. The patient underwent decompressive surgery of the spine. Based on histopathology and culture data, he was diagnosed with vertebral osteomyelitis and discitis caused by *B. cepacia*. *Burkholderia cepacia* was identified using VITEK MS MALDI-TOF (bioMérieux, INc Durham, NC). He was treated with 2 weeks of intravenous meropenem and, thereafter, oral ciprofloxacin based on antibiotic susceptibilities.

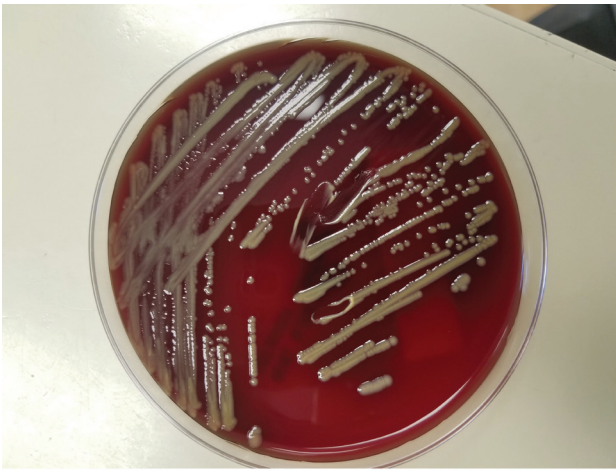
The organism was resistant to trimethoprim-sulfamethoxazole. His CRP trended down and he was discharged after 3 weeks of hospitalization. He completed 8 weeks

of oral ciprofloxacin and was followed up in the outpatient infectious diseases clinic. He continues to do well and repeat MRI 6 months later demonstrated radiological improvement (Panel D).

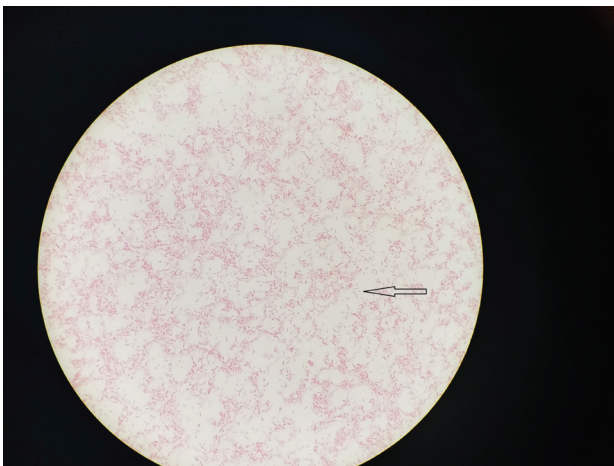
Discussion

Burkholderia cepacia is a motile, catalase-producing, and non-lactose fermenting, Gram negative bacterium belonging to a group commonly known as the *B. cepacia* complex (Bcc) [6]. This bacterium is transmitted through person-to-person spread, medical devices, contaminated disinfectants and the environment [7,8]. An outbreak of infection due to *B. cepacia* has been reported when using saline flush, oral docusate solution, and certain nasal spray [9]. Human infections such as bacteremia, endocarditis, septic arthritis, wound infection, osteomyelitis, meningitis, peritonitis, urinary tract infection, and respiratory tract infection have been described in the literature. Vertebral osteomyelitis due to *B. cepacia* has been reported following rhinoplasty, in intravenous drug abusers and rarely in immunocompetent persons [10].

In our patient, we suspect that the infection may have been introduced during the epidural injection procedure. We identified this bacterium in bone biopsy culture as



Panel B. White mucoid colonies in blood agar plate.



Panel C. Gram stained smear of bone biopsy culture aspirate showing gram negative rods. (Original magnification, x 1000).



Panel D. MRI lumbar vertebrae done 6 months later with interval improvement in disc space and adjacent vertebral body signal abnormality and enhancement and decrease in surrounding anterior epidural and paraspinal soft tissue thickening and enhancement surrounding the proximal right L5 nerve root.

B. cepacia, but 16 S ribosomal RNA sequencing can be done to rapidly identify this bacteria. Mechanisms of resistance in *Bcc* include changes in lipopolysaccharide structure, efflux pumps, inducible chromosomal β -lactamases, and altered penicillin-binding proteins [11]. *Bcc* organisms are difficult to eradicate because of their innate resistance to a wide range of antibiotics and their capacity to form biofilms. Trimethoprim-sulfamethoxazole and fluoroquinolones are the most active drugs followed by ceftazidime and meropenem based on a recent study [12].

Conclusion

Though rare, *B. cepacia* should be considered in the differential diagnosis of vertebral osteomyelitis in the appropriate clinical setting. Early diagnosis and proper treatment could lead to a better outcome.

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Author Contributions

Rabindra Ghimire writing the whole manuscript and managing/treating the patient. Jaffer Hussain writing the manuscript and managing/treating the patient. Ahmed Abubaker managing/treating the patient. Triona Henderson writing the manuscript, revision from microbiology standpoint, and obtaining imaging. Paul Cook revision of manuscript, managing/treating patient.

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Summary of the case

Patient (gender, age)	1	Male, 50-year old
Final diagnosis	2	Vertebral Osteomyelitis due to <i>B. cepacia</i>
Symptoms	3	Back pain, urinary incontinence
Medications	4	Meropenem, methylprednisone, ciprofloxacin
Clinical Procedure	5	Epidural injection, Interventional radiology guided bone biopsy
Specialty	6	Infectious Diseases, Orthopedics.