Listeria monocytoge-knees infection: An unusual presentation

To the Editor: *Listeria monocytogenes* is a small Gram-positive bacillus. Characteristic infections include bacteraemia, meningitis and gastroenteritis. Localised infections are seldom reported, although there have been a few cases of prosthetic joint, skin and bone infections. We describe a case of prosthetic joint infection by *L. monocytogenes.*

A 71-year-old woman was admitted to the orthopaedic department at Tygerberg Hospital, Cape Town, with septic arthritis of the left knee. She was known to have rheumatoid arthritis, hypercholesterolaemia and hypertension. She had had bilateral hip and knee replacements many years previously. No alcohol use was reported, and she was taking methotrexate, atenolol and simvastatin as chronic medication. On presentation she was haemodynamically stable with an erythematous, warm, swollen left knee with decreased range of motion. The peripheral white cell count was 10.09×10^9/L, the creatinine level 60 μmol/L and the C-reactive protein level 316 mg/L. Incision and drainage of the left knee was performed. A pus swab and tissue sample were sent for microscopy, culture and susceptibility testing. Anerobic blood cultures yielded no growth after 5 days. A pure growth of *L. monocytogenes* was cultured from both the pus swab and the tissue sample. The organism was identified with the VITEK 2 (bioMérieux, France) platform. Antimicrobial susceptibility testing was performed according to gradient diffusion. The organism tested susceptible to penicillin with a penicillin minimum inhibitory concentration of 0.25 μg/mL. The patient was allergic to penicillin and was therefore treated with intravenous trimethoprim-sulfamethoxazole followed by oral trimethoprim-sulfamethoxazole (trimethoprim dosage 20 mg/kg/d in divided doses 8-hourly). Removal of the prosthetic device was advised, but the patient refused and was placed on chronic suppressive therapy with trimethoprim-sulfamethoxazole. She developed anaemia while on suppressive therapy, and the trimethoprim-sulfamethoxazole was stopped. She re-presented 2.5 years later with a chronic draining sinus of the left knee which is managed by the orthopaedic department on an outpatient basis.

L. monocytogenes joint infections are rarely reported. Osteoarticular listeriosis primarily involves prosthetic joints and mainly presents as a subacute, localised infection without central nervous system involvement or concomitant positive blood cultures.[1,2] Chronic prosthetic joint infection due to *L. monocytogenes* has also been reported.[3] Risk factors for bone and joint listeriosis appear to be a combination of those identified for bacterial arthritis and those identified for listeriosis, with major contributions of age >60 years, presence of foreign material, immunosuppression and corticosteroid therapy, underlying neoplasia and diabetes. Rheumatoid arthritis has been shown to result in a 10-fold increased incidence of septic arthritis relative to the general population, probably as a consequence of frequent joint prosthetic implants and intra-articular and systemic immunosuppressive therapies in these patients.[1]

This case highlights an atypical presentation of *L. monocytogenes* infection. Clinicians and microbiologists should have a high index of suspicion of this bacterium in patients with prosthetic joints who are on immunosuppressive therapy or have underlying immunosuppressive conditions.

Acknowledgement. We thank Dr Wentzel Bruce Dowling for suggesting the title of this letter.

S Singh, R Hoffmann
Division of Medical Microbiology, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa; and National Health Laboratory Service, Tygerberg Hospital, Cape Town, South Africa
sarishna.singh@nhls.ac.za

1. Charlier C, Leclercq A, Cazenave B, et al. *Listeria monocytogenes*-associated joint and bone infections: A study of 43 consecutive cases. Clin Infect Dis 2012;54(2):240-248. https://doi.org/10.1093/cid/cir803
2. Allerberger F, Kasten MJ, Cockerill FR III, Krismer M, Dierich MP. *Listeria monocytogenes* infection in prosthetic joints. Int Orthop 1992;16(3):237-239. https://doi.org/10.1007/BF00182702
3. Kleemann P, Domann E, Chakraborty T, Bernstein I, Lohoff M. Chronic prosthetic joint infection caused by *Listeria monocytogenes.* J Med Microbiol 2009;58(1):138-141. https://doi.org/10.1099/jmm.0.004234-0

S Afr Med J 2021;111(9):819. https://doi.org/10.7196/SAMJ.2021.v111i9.15857