CASE REPORT

Is prostatic biopsy as safe as we think? Epidural abscess following prostatic biopsy

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Spinal epidural abscess is an infectious disorder with high morbidity and mortality rates, which is often associated with delayed diagnosis. We report a case of a 73-year-old man with cervical pyogenic spondylodiscitis complicated with epidural abscess following a prostatic biopsy. Clinical presentation included fever, malaise, neck rigidity in all axes, minor paresis of the right arm, and gait ataxia. A cervical vertebral magnetic resonance imaging (MRI) scan showed pyogenic spondylodiscitis with an epidural abscess. Blood, urine, and cerebrospinal fluid cultures were sterile. The patient was treated with intravenous vancomycin, metronidazole, and ceftazidime for 4 weeks, and was discharged from the hospital and treated with oral cloxacillin, metronidazole, and cefixime for another 2 weeks. His neurological symptoms disappeared completely, and he walked normally, without support. It is important for clinicians to be alert to symptoms accompanying back pain following a prostatic biopsy and to consider the possibility of a diagnosis of spinal abscess.

Key Words: pyogenic spondylodiscitis, epidural abscess, MRI, prostatic biopsy

Case report

A 73-year-old man was admitted to our hospital with a 3-week history of progressively worsening neck pain and rigidity, malaise, episodes of fever up to 40ºC, gait ataxia for the previous 10 days, and a worsening clinical status over the previous 48 hours. Questioning revealed that the patient had undergone a prostatic biopsy with oral ciprofloxacin prophylaxis 3 weeks ago, and he had experienced fever 24 hours after the surgery and neck pain and rigidity 48 hours after the surgery. The patient was treated with acetaminophen, diclofenac, tramadol, and diazepam, but did not show any clinical improvement. He had made two visits to the hospital emergency department, and had been discharged with a diagnosis of cervical arthritis before being admitted to the hospital. On examination he was febrile, somnolent, and had neck pain and rigidity in all axes. Neurologic examination revealed minor paresis of his right arm as well as gait ataxia. The patient's laboratory tests showed elevated levels for white blood cell count 14,180 x 10^9/l (normal 4-10 x 10^9/l), C-reactive protein 7.07 mg/dl (normal 0.00 mg/dl-0.50 mg/dl), and erythrocyte sedimentation rate 92 mm/h (normal 1-15 mm/h). X-rays and a computed tomography (CT) scan with a contrast agent of the cervical spine revealed degenerative chronic changes. The patient was diagnosed with febrile syndrome and was admitted to the hospital and started on intravenous gentamicin 240 mg every 24 hours and ceftazidime

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2 g every 8 hours. A lumbar puncture revealed a clear appearance, 3 mononuclear cells/mm^3 (normal up to 5 mononuclear cells/mm^3), protein 375 mg/dl (normal 18-35 mg/dl), and glucose 35 mg/dl (normal 45 mg/dl-80 mg/dl), and a gram stain, a direct smear for mycobacteria, and testing for cryptococcal antigen were all negative. Blood, urine, and cerebrospinal fluid were all sterile. A cervical vertebral MRI scan was obtained and revealed pyogenic spondylodiscitis C3-C4 and an anterior epidural abscess extending from C3 to C7 and spinal compression, Figure 1. The patient was switched to intravenous vancomycin 1 g every 12 hours, metronidazole 500 mg every 8 hours, and ceftazidime 2 g every 8 hours. Dexamethasone, acetaminophen, ibuprofen, tramadol, and diazepam were added to the treatment, and this was associated with a marked decrease in pain and improvement in neck movement. After 4 weeks of intravenous antibiotics, the patient was discharged and treated with oral cloxacillin, metronidazole, and cefixime for 2 more weeks. He recovered completely with no neurological sequelae.

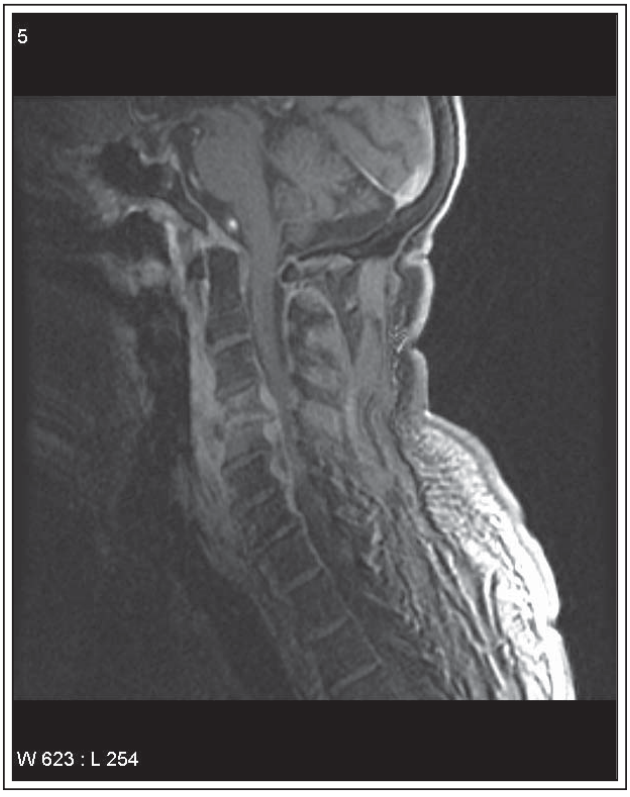

Figure 1. Dynamic contrast-enhanced MRI sagittal T1-weighted image of the cervical spine showing pyogenic spondylodiscitis C3-C4 and anterior epidural fluid collection extending from C3 to C7.

Discussion

Prostatic biopsy, a routine clinical procedure, is not always free from serious complications. Infectious complications are rare, but are among the most severe complications, even though in most cases, antimicrobial prophylaxis had been properly conducted. Reported severe infectious complications following prostatic biopsy include meningitis, peritonitis, and spinal epidural abscess.[1-5] After an extensive literature search, we found only two cases of spinal epidural abscess published in the English literature, and in both cases, antibiotic prophylaxis had been performed.[6,7] Spinal epidural abscess is an infectious disorder with high morbidity and mortality rates, often associated with delayed diagnosis.[8-10]

In our case, the patient had been given antibiotic prophylaxis with oral ciprofloxacin. The rate of fluoroquinolone resistance in our institution is 30%, and following fluoroquinolone resistance, amoxicillin/clavulate is the subsequent preferred antibiotic treatment, but cefixime, cefuroxime axetil, or co-trimoxazole may also be used.

The spondylodiscitis and spinal epidural abscess in our patient's case most likely resulted from bacteremia after the prostatic biopsy, beginning as a focal pyogenic infection involving the vertebral disc and progressing to the epidural space.[11] Initial manifestations such as fever and malaise were non-specific; and the classical diagnostic triad consisting of fever, spinal pain, and neurological deficits was not apparent until 2 weeks after the clinical manifestations started.[12,13] This delay in diagnosis was similar to that seen in other reported cases of spinal epidural abscess.

A CT scan was not helpful in making the diagnosis of spinal epidural abscess in our case. An MRI scan should be the modality of choice for diagnosing and following patients with suspected back tissue processes.[11,14,15]

Patient management should be adjusted to the individual patient, and a multidisciplinary medical team approach has been shown to give the best results.[16] In our case, internists, radiologists, neurologists, and neurosurgeons were involved in the patient's management. Treatment consisted of medical therapy without surgical intervention. The patient's clinical status and inflammatory biomarker responses were monitored[17,18] and the patient had a follow-up MRI scan. If the patient's neurological condition had deteriorated, he would have warranted immediate surgery.[19-21]

A patient with a spinal epidural abscess should be treated with an empiric regimen of antibiotics that are active against staphylococci, streptococci, and gram-

negative bacilli; the usual duration of therapy is 4 to 6 weeks, or until resolution of the spinal epidural abscess is seen on an MRI scan.[16] In our case, vancomycin, metronidazole, and ceftazidime were administered intravenously for 4 weeks, and then oral cloxacillin, metronidazole, and cefixime were given for the next 2 weeks.[18,22,23] The patient's neurological symptoms disappeared completely, and he walked normally, without support.

In conclusion, this case illustrates a rare complication due to prostatic biopsy and shows the importance of taking a thorough history and performing a thorough examination in patients with back pain. Spinal epidural abscess is a dangerous disease that can cause severe complications or even death. For this reason, every attempt should be made to make a prompt diagnosis and give proper treatment. Back pain with alarming symptoms are the keys to clinical suspicion[24] and an MRI scan should be the modality of choice for making a diagnosis of spinal epidural abscess.[14,15] Serious complications may occur following prostatic biopsies and even though these are very rare, physicians should be aware of them, in order to be able to intervene early. This potential serious complication begs the question, "Are prostatic biopsies as safe as we think?" □

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