PD-23. SUBSEQUENT EPIDURAL CATHETERIZATION FACILITATED DETECTION OF AN EPIDURAL ABSCESS

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Spinal epidural abscess is a rare complication after epidural anesthesia and analgesia. Early recognition is a very important step to initiate timely and effective treatment. Delay in diagnosis may result in devastating neurological consequences. On the other hand, it is often difficult to detect this complication before neurological deficit occurs, especially in debilitated patients. We describe a case of an epidural abscess in a cancer patient, which developed following epidural analgesia during a previous admission. The epidural abscess was diagnosed during epidural catheterization for analgesia during a subsequent admission.

The patient is a 63-year-old male with non-small cell lung cancer and metastasis to the pelvis. Initial presentation was a 3-month history of lower back pain. MRI of the spine was normal but CT scan demonstrated a destructive lesion of the right acetabulum and left ileum. Following diagnostic evaluations and initial radiation therapy at another medical facility, the patient was admitted to our hospital for further treatment. His back pain was poorly controlled by morphine (IVPCA). Lumbar epidural analgesia (bupivacaine 0.05% with fentanyl 4 mcg/ml, epidural PCA with continuous infusion) was started on admission day 9, but the catheter was dislodged on day 11. Epidural analgesia was implemented on day 15. His pain was much improved by the epidural analgesic technique. Radiation therapy and chemotherapy were given. The epidural catheter was removed on day 23 and a fentanyl patch was started thereafter. He was discharged to a skilled nursing facility on day 27 with excellent pain control. Also on day 27, a small skin abscess was noted at the epidural catheter removal site without fever or leucocytosis. Oral antibiotics were started when he was transferred.

Ten days following discharge, he was readmitted to our hospital for increasing back pain. He was afebrile and his skin abscess was well healed. No significant neurological changes from last admission were noted except for sedation due to opioids and leucocytosis (WBC 16,400). A lumbar epidural catheter was placed, and an epidural continuous infusion (bupivacaine 0.1% with hydromorphone 20 mcg/ml) was started. However, not only did he not respond to epidural analgesia, his back pain was aggravated with radicular pain to both legs by bolus injection via the epidural catheter. Epidural analgesia was discontinued on the same day, and aspirate from the catheter was sent to Gram staining which showed no WBC or bacteria. Two days after epidural placement, the catheter was removed and sent for culture, which grew Staph. Aureus within 24 hours. Antibiotics were started, and MRI of the spine showed a left paraspinous abscess at L3-4 and a multiloculated epidural abscess from L3 to S1, which compressed the thecal sac posteriorly.

Infectious disease and neurosurgical consultations resulted in continuing IV antibiotics therapy without decompression surgery due to a lack of significant neurological deficit. His pain improved and pre-existing back pain was responsive to a fentanyl patch. The patient was discharged to a skilled nursing facility on day 20 of the second admission.

Epidural abscess is a rare complication after epidural analgesia and may result in serious neurological impairment. One recent national survey showed incidence being 1 in 1,930 epidural analgesia (1). They found that majority of patients with epidural abscess were immunocompromised, had a longer catheterization time, and received anticoagulant therapy. Our patient was prone to develop epidural abscess; he had a metastasized cancer and total of 10 days of catheterization during the first admission.

The prognosis depends on rapid diagnosis and treatment, and severity of neurological deficit before treatment (2). Our patient is a unique case since epidural catheter placement in the subsequent admission raised a suspicion of epidural abscess, which was supported by catheter tip culture result and confirmed by MRI. Retrospectively, worsening back pain and leucocytosis are all indicative of possible infection, none of which are specific features. If he did not have epidural catheterization, recognition of abscess might have delayed until apparent neurological deficit developed.

In our case report, elicitation of radicular pain during epidural bolus injection was first suggestive of an epidural infection. A prospective study may help to determine if pain at epidural bolus injection truly correlates with the presence of an epidural abscess.

1) Wang LP, Hauerberg. J, Schmidt JF: Incidence of spinal epidural abscess after epidural analgesia. Anesthesiology 1999; 91:1928-36

2) Brookman CA, Rutledge MLC: Epidural abscess: case report and literature review. Reg Anesth Pain Med 2000: 428-31