Epidural Abscess and Discitis Following Spinal Anaesthesia- A Case Report

Wg Cdr RK Lalla*, Wg Cdr MC Joshi⁺, Wg Cdr MS Sridhar[#], Wg Cdr H Sahni^{**}

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Introduction

Complications of central neuraxial blockade have been reported from the beginning of its use. However the benefits coupled with its low incidence of complications have ensured its continuing popularity worldwide. Though infections continue to remain on the list of complications, use of aseptic techniques have reduced its incidence to negligible levels. We present a case of epidural abscess and discitis following spinal anaesthesia. The aim of publishing the case is to highlight the importance of being aware of the probability and immediate recognition and management of the same.

Case Report

A 62 year old male was posted for bilateral mesh hernioplasty under spinal anaesthesia. He was free from any systemic illness and accepted under ASA grade II (Age). There was no history of backache. Spinal anaesthesia was administered at Lumbar 3rd/4th interspace using a disposable 23 G spinal needle with 2.8 ml 0.5% Bupivacaine heavy solution with aseptic precautions. Lumbar puncture was successful in first attempt. No peri-operative antibiotics were administered. The peri-operative course was uneventful and the patient was discharged on the 7th postoperative day.

Three days later he was re-admitted to hospital with severe low backache and high grade fever. Clinical examination revealed continuous fever of 102-103° F with tachycardia (Heart rate 110-120/min), and no chills or rigors. Systemic examination was not contributory. Central nervous system examination revealed no sensory or motor neurological deficit. Muscle power in both lower limbs was grade 5/5. Local examination elicited severe tenderness over 2nd – 5th lumbar vertebrae with no other signs of local inflammation. Surgical sites were healthy.

Hematological and biochemical investigations were non contributory as was the ultrasound abdomen and chest radiograph. Total leukocyte count was 9200/cmm with 65% polymorphs.

Therapy was instituted with Inj. Cefotaxime, Cloxacillin, Amikacin and Diclofenac. There was no apparent clinical improvement over the next 48 hours. Despite the absence of neurological signs, an MRI spine was carried out in view of persisting pyrexia and tenderness over the lumbar spine. The MRI revealed discitis at lumbar 2/3 level with a small epidural abscess extending into the left Psoas muscle (Fig 1).

Fig. 1 : T2 weighted MRI image of lumbar spine showing epidural abscess (1) and discitis at L2 level (2)

*Classified Specialist (Anaesthesiology and Neuroanaesthesiology), Command Hospital Air Force, Bangalore-7, ⁺Classified Specialist (Anaesthesiology), 7 Air Force Hospital, Kanpur, ^{**}Reader, Department of Radiodiagnosis and Imaging, Armed Forces Medical College, Pune-40, [#]Classified Specialist (Surgery and Neurosurgery), Command Hospital (Central Command), Lucknow.

He was posted for emergency lumbar 2/3 discectomy and evacuation of abscess under general anaesthesia. Surgical findings were a degenerated disc L2/3 with flakes of pus anterior to dural tube with granulation tissue. A Left hemilaminectomy with discectomy was performed. Post-operative antibiotic therapy continued with same antibiotics. Subsequent clinical course was uneventful and the patient made a complete recovery. Pus culture grew *Streptococcus aeruginosa*.

Discussion

Spinal epidural abscess is a rare complication of neuraxial blockade, which if unrecognized can lead to serious neurological sequelae or even death. The incidence of epidural abscess following central neuraxial blockade is 1: 505,000 [1]. A Finnish study of closed anaesthesia from 1987 to 93 reported 4 cases of epidural abscess in 550,000 spinal and 170,000 epidural anaesthesia administrations [2]. In comparison, the usual cause is endogenous hematological infections with an incidence of 2:10,000 hospital admissions [3].

The presentation of spinal epidural abscess can be nonspecific. Fever, malaise, and back pain are the most consistent early symptoms. Local tenderness, with or without neurologic deficit, is the usual physical finding and leukocytosis may be the only abnormal laboratory finding. Epidural abscess should be suspected in patients presenting with fever and back pain, especially if they have other risk factors such as an immunocompromised state, steroid therapy, diabetes mellitus or malignancy [3].

The most common presenting symptoms of spinal epidural abscesses are back pain and fever, as was the case in our patient. Any delay in recognition and treatment can lead to serious neurological damage or death, hence the anaesthesiologist must have a high index of suspicion in a patient presenting with the above clinical findings, especially if there is a history of central neuraxial anaesthesia. Early surgical evacuation offers the best chance of cure.

The source of infection is usually endogenous though a small micro-trauma/tiny blood drop is postulated to provide the nidus. Though epidural abscess after spinal block is extremely rare, the development soon after spinal anaesthesia in this case seems to suggest this as the probable cause.

Though the incidence of epidural abscess after central neuraxial block is rare, the potential serious nature of this complication re-emphasizes the necessity of sterile technique and use of disposable needles while performing the procedure.

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