

## Epidural analgesia information card averted permanent neurological sequelae

Sir,

Spinal epidural abscess is a dreaded complication of epidural analgesia.<sup>[1]</sup> Early diagnosis and prompt treatment is crucial.

A 29-year-old male patient diagnosed with periampullary carcinoma was planned for laparotomy. An Epidural catheter was inserted preoperatively in the D6–D7 space, with strict asepsis. Postoperatively, epidural analgesia was continued using elastomeric pump (0.1% bupivacaine and 10 µg/mL morphine sulphate) at 8 mL/h. The preparation of anaesthetic solution for the disposable balloon pump was done using aseptic precautions. On day 3, a temperature of 100°F was noted. As a hospital policy, all catheters are removed on day 4. As pain, tenderness and minimal pus were present at the catheter site, a swab was collected from around the insertion site at removal. Injection amoxicillin-clavulanate 1.2 g was administered intravenously every 8 h. As fever continued, injection meropenem 1 g intravenously 8 hourly was started. Computerised tomography of the abdomen did not show any infection. The epidural site remained tender, erythematous [Figure 1] and incision and drainage was done on 7<sup>th</sup> postoperative day. Minimal pus was drained, the infection was adjudged to be superficial. The patient had backache with no radicular or meningeal signs, which settled in 24 h. Over the next 72 h, the patient was afebrile with persistent leucocytosis [Table 1]. Skin swab culture grew methicillin-resistant *Staphylococcus aureus*. In view of clinical improvement, the patient was discharged home on day 10. As per protocol, the



**Figure 1:** Infection at epidural catheter site as seen on postoperative day 4 and day 7

patient was educated about the early signs of epidural abscess and given an information leaflet with an emergency contact number.

On day 11, the acute pain service was contacted by a relative reporting that the patient had developed acute-onset weakness of lower limbs, with urinary retention. The patient reported back to the hospital. Physical examination revealed bilateral sensory and motor loss below L1. Magnetic resonance imaging of the spine showed an epidural abscess causing cord compression from D2 to D6, [Figure 2]. Emergency decompression was performed within 6 h and the patient was started on injection dexamethasone 4 mg intravenously 8 hourly for 48 h, and injection vancomycin 500 mg 12 hourly for 14 days. The patient made a good neurological recovery in 72 h and was eventually discharged. On follow-up, he had no residual motor weakness or bladder/bowel dysfunction.

Epidural space infection may occur during catheter insertion or subsequently due to skin contamination, haematological or intraluminal routes.<sup>[2]</sup> In this case, skin contamination and spread to the epidural space was the probable cause. As a hospital policy, in all cases along with the skin swab, the epidural catheter tip is also sent for culture. This was missed in this case. However, a positive epidural catheter tip culture alone is not a reliable predictor of epidural space infection,<sup>[3]</sup> and the role of empirical extended antibiotic course to treat colonisation is unclear.<sup>[4]</sup> Our patient had fever and backache with no accompanying radicular signs, which subsided with symptomatic management. Six days later, he presented with paraparesis and urinary symptoms. The lesson learnt is that symptomatic improvement of backache, in the presence of catheter site infection, does not rule out spread of infection to deeper structures. Epidural abscesses usually present late and the signs and symptoms may not



**Figure 2:** Magnetic resonance imaging plate of patient showing extradural lesion from 2<sup>nd</sup> to 6<sup>th</sup> thoracic spine (A - anterior, P - posterior)

Table 1: Serial white blood cell counts at various time intervals

Report Date	Preoperative	POD 0	POD 1	POD 3	POD 4	POD 5	POD 6	POD 8	POD 12	POD 24
WBC	9.2	18.7	18.0	10.0	11.3	12.9	10.4	12.8	12.6	15.6
ANC	3.5	12.4	15.7	8.5	9.3	10.8	7.0	10.0	9.5	13.4

POD – Postoperative day; POD 0 – Day of surgery; POD 4 – Epidural catheter removed; POD 10 – Day of discharge; POD 12 – Emergency laminectomy done; POD 24 – Discharge after laminectomy; WBC – White blood cell count expressed as  $10^9/L$ ; ANC – Absolute neutrophil count

appear until after discharge.<sup>[2,5]</sup> It is, therefore, crucial to ensure that patients are informed and understand the early signs of epidural infection and report immediately. An information card explaining early signs of infection, instructions and emergency contact telephone numbers should be issued. The favourable neurological outcome in this case was linked to prompt reporting and timely intervention. We conclude that patient information regarding early symptoms of epidural abscess is essential and must be a part of pain protocols in institutes offering epidural analgesia.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

**Sumitra G Bakshi, Gautham Rajan,  
Parmanand N Jain**

Department of Anesthesia, Critical Care and Pain, Tata Memorial Hospital, Mumbai, Maharashtra, India

#### Address for correspondence:

Dr. Sumitra G Bakshi,  
Department of Anesthesia, Critical Care and Pain,  
Tata Memorial Hospital, Mumbai, Maharashtra, India.  
E-mail: sumitrabakshi@yahoo.in

#### REFERENCES

1. Cameron CM, Scott DA, McDonald WM, Davies MJ. A review

of neuraxial epidural morbidity: Experience of more than 8,000 cases at a single teaching hospital. *Anesthesiology* 2007;106:997-1002.

2. Phillips JM, Stedeford JC, Hartsilver E, Roberts C. Epidural abscess complicating insertion of epidural catheters. *Br J Anaesth* 2002;89:778-82.
3. Harde M, Bhadade R, Iyer H, Jatale A, Tiwatne S. A comparative study of epidural catheter colonization and infection in Intensive Care Unit and wards in a Tertiary Care Public Hospital. *Indian J Crit Care Med* 2016;20:109-13.
4. Aldrete JA, Williams SK. Infections from extended epidural catheterization in ambulatory patients. *Reg Anesth Pain Med* 1998;23:491-5.
5. Kindler CH, Seeberger MD, Staender SE. Epidural abscess complicating epidural anesthesia and analgesia. An analysis of the literature. *Acta Anaesthesiol Scand* 1998;42:614-20.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

#### Access this article online

Quick response code



Website:  
www.ijaweb.org

DOI:  
10.4103/ija.IJA\_206\_17

**How to cite this article:** Bakshi SG, Rajan G, Jain PN. Epidural analgesia information card averted permanent neurological sequelae. *Indian J Anaesth* 2017;61:597-8.

© 2017 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow