Epidural abscess following epidural insertion for labour analgesia

J Dinsmore, K Whitehouse
Royal Victoria Infirmary, Newcastle upon Tyne

NHS
The Newcastle upon Tyne Hospitals
NHS Foundation Trust

Introduction

Approximately 25% of labouring women in the UK receive epidural analgesia[1]. We report a case of epidural abscess following an epidural for labour and subsequent epidural blood patch. .

Case report

A 22-year-old primiparous lady with no significant past medical history had an epidural sited for labour analgesia. There was no recognised dural puncture, and the epidural worked with good effect until a normal vaginal delivery later that day. Two days later she presented with a classical post-dural puncture headache and received an epidural blood patch, which entirely resolved her headache. There was no difficulty with insertion of either epidural, and full aseptic technique was documented. In both cases an 18G Tuohy needle was used.

On day 7 postnatal, she presented to A&E with back pain. Neurological examination was unremarkable, but on examination there was localised tenderness to the paraspinal muscles, and a post-void bladder scan revealed >450ml. An MRI showed moderate to severe cauda equina compression secondary to epidural haematoma at L3-4. A neurosurgical opinion was sought and the haematoma was assumed to be blood from the epidural blood patch, and conservative management was advised. The patient was admitted for analgesia, and was seen daily by the obstetric and anaesthetic teams; the pain remained severe but there was initially no neurological deficit. On day 9 post-natal, new paraesethesia was described, alongside urinary retention and pyrexia. Inflammatory markers were raised, and an MRI showed an expanding haematoma and worsening cauda equina (see image). It was not clear from the scan whether there was infection or abscess present. She was taken to theatre for a laminectomy and evacuation of epidural collection (noted by the neurosurgeons at time of surgery as infected), and started on IV antibiotics. Staphylococcus aureus was isolated from all samples sent from theatre. Following a prolonged course of antibiotics, the patient has no lasting neurological deficit although still has ongoing problems with back pain and is under the care of the pain team.



MRI scan on day 9 – showing cauda equina compression at L3/4

Discussion

Epidural abscess is a rare but serious complication of epidural insertion. So rare, in fact, that it was previously viewed as almost a theoretical complication[2], but is now quoted as complicating around 0.2-3.7 per 100,000 obstetric epidurals[1]. It presents with a classic triad of fever, back pain and neurological deficit (usually a late sign). The risk factors for epidural abscess include immunodeficiency, lack of aseptic technique during epidural insertion, pre-existing infection, anti-thrombotic drug therapy, and multiple intrusions into the spinal/epidural spaces. In this case report, the only increased risk factor was the fact that the patient had an epidural blood patch in addition to an epidural for labour analgesia.

While back pain following childbirth is very common, the potentially catastrophic consequences of neuraxial infection mean this potential differential diagnosis must always be considered, especially when back pain is associated with features of infection or neurological deficit.

References

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2. S. Grewal, G. Hocking, J. A. W. Wildsmith, Epidural abscesses, BJA: British Journal of Anaesthesia, Volume 96, Issue 3, March 2006, Pages 292–302, https://doi.org/10.1093/bja/ael006