Failure to diagnose: epidural abscess

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Early diagnosis of spinal epidural abscess is often elusive. Late diagnosis may leave the patient with permanent and severe neurological disability. The aim of this article is to raise general practitioners' awareness of this uncommon condition.

Case history

Ms CA, 37 years of age, gave birth to her third child by caesarean section on 10 April 2001. Before the delivery, an epidural catheter was inserted by an anaesthetist. The delivery was uncomplicated and the baby was born in good condition. Ms CA complained of some back pain around her epidural site during her hospital stay. She was reviewed by the anaesthetist on 14 April 2001. He felt that her back pain was muscular in nature and noted that the epidural site was normal. Ms CA and the baby were discharged home on 17 April 2001. Between 17 and 24 April 2001, Ms CA experienced ongoing back pain, headaches, fever and at times shaking. She rang her obstetrician who suggested the patient see her local general practitioner for review. On 24 April 2001, Ms CA and the baby were seen by the GP who organised their admission to the base hospital. The baby was admitted for management of mild jaundice and Ms CA was admitted for review of her increasingly severe back pain. The admitting doctor in the emergency department (ED) noted in the medical record 'her back pain has niggled on since (delivery), initially radiating along spine, has now switched to transverse lumbar pain, worst last 2 days'. He also recorded the history of caesarean section, a fall on day 3 and pain at the epidural site from that point on. A provisional diagnosis of sacroiliitis was made. On the hospital ward, she was seen by the medical registrar who prescribed Oxycontin, Panadeine Forte and a nonsteroidal anti-inflammatory drug. Following review by the medical registrar and a telephone discussion with the obstetrician, the patient and her son were discharged home on 26 April 2001. On 2 May 2001, the patient complained of increasingly severe back pain that was not relieved by her medications. She was admitted to the local hospital on 3 May 2001 and, soon after admission, suffered a grand mal fit. The admitting GP did not make a specific diagnosis but recorded in the notes 'excess opiate usage ?sacroiliitis'. Arrangements were made to transfer the patient by ambulance to the base hospital. The patient's condition continued to deteriorate and, on 5 May 2001, Ms CA died from complications secondary to a rupture of a spinal epidural abscess.

A Coronial Inquest into Ms CA's death commenced in March 2003 and the Coroner's findings were handed down on 9 March 2004.[1] The Coroner considered a number of issues in relation to Ms CA's medical management, including:

- Did Ms CA's postnatal care during the period from 10 April until her discharge on 17 April 2001 accord with accepted standards of medical care?

There was conflicting evidence given at the Inquest from family members, medical and nursing staff about the patient's condition during her hospital stay. On balance, the Coroner determined that the care provided to Ms CA during the postnatal period fell within the recognised standard of care. However, the Coroner found that given the recorded complaints of back pain, the patient should not have been discharged without appropriate and timely follow up. This was particularly so because the patient was travelling home to a rural area

- Was the GP's examination and diagnosis of Ms CA on 24 April 2001 and his decision to admit her to hospital reasonable?

The Coroner found that the GP could have gleaned far more information from Ms CA about her history. He also noted that the GP's examination of the patient was 'cursory'

- Was the examination by the medical officer in ED on 26 April 2001, the provisional diagnosis and the

decision to admit her under the care of one of the GPs reasonable?

The Coroner commented that the admission to hospital was a 'lost window of opportunity' to diagnose the ultimately fatal condition of a spinal epidural abscess. In his oral evidence, the ED medical officer stated that he considered the patient had a 30% chance of suffering from an epidural abscess and that he conveyed this information to the admitting GP. However, the admitting GP had no recollection of this comment and there was no record of consideration of an epidural abscess in the medical records

- Was the examination by the medical registrar on 26 April 2001 adequate and should Ms CA have been discharged on 26 April 2001 without further tests or investigations?

It was difficult for the Coroner to address this issue because there were no contemporaneous medical records of the registrar's examination of the patient. The registrar gave evidence that the patient's records were not available at the time of his assessment and he made notes on a piece of paper which he left with the nursing staff to place in the file. These notes were not located. There was some criticism of the registrar's failure to consider ordering magnetic resonance imaging (MRI) and failure to provide clear instructions to the patient about her medications postdischarge. The registrar said that he considered that the sacroiliitis could have been postoperative or infective but there was criticism that he did not put in place any management plan to investigate this further

- Who should have taken primary responsibility for Ms CA's postnatal care?

The Coroner commented that 'not one person was prepared (other than with the benefit of hindsight) to take any responsibility for Ms CA's death. Perhaps the litigious society that we live in coupled with an attitude or reluctance to self examine is the reason'. He stated that each of the doctors who saw Ms CA were hasty in reaching a diagnosis and 'felt comfortable with the notion that any major problem would be picked up by someone else down the track. Not one doctor accepted global responsibility for Ms CA'.

Discussion and risk management strategies

Spinal epidural abscess is an uncommon condition with an estimated incidence of 0.25 per 10 000 hospital admissions and a peak incidence in the sixth and seventh decades of life.[2] The frequency of spinal epidural abscess appears to be increasing.[3] Several factors may be contributing to the higher incidence, including the use of illicit intravenous drugs, the growing number of spinal procedures and the use of percutaneous spinal studies (eg. discograms, facet joint blocks, epidural catheters). The increased availability and sophistication of spinal imaging techniques, with the ability to detect even small spinal epidural abscesses, may also be contributing to the apparent increase in incidence of this condition.

Most spinal epidural abscesses are thought to arise from the haematogenous spread of bacteria. The direct spread of infection into the epidural space from a source adjacent to the spine is also well described. Postoperative abscesses account for about 16% of all spinal epidural abscesses and epidural catheter insertion is another recognised predisposing factor.[2] Blunt trauma is reported to precede the symptoms of spinal epidural abscess in some instances and it is postulated that trauma may result in the formation of an epidural haematoma that subsequently becomes infected. Associated predisposing conditions include a compromised immune system such as occurs in patients with diabetes mellitus, HIV, chronic renal failure, alcoholism or cancer. No predisposing condition can be found in up to 20% of patients. The most common causative organism is *Staphylococcus aureus*. The prognosis is dependent on the neurological condition of the patient at presentation and any delay in the diagnosis or instigation of appropriate antimicrobial treatment. A high index of suspicion is required, particularly in those patients with predisposing risk factors, including recent epidural anaesthesia, spinal surgery or trauma. Despite the availability of imaging techniques that facilitate diagnosis, death still occurs in about 14% of patients.[2]

The typical clinical features of spinal epidural abscess include back pain and tenderness, fever, radiating root pain, paraesthesia and paraplegia. Early diagnosis and prompt treatment are essential to prevent serious morbidity and mortality.

Conflict of interest: none.

References

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