Clinical-Scientific Notes

Cauda equina syndrome post-caesarean section

Jason CHOW,[1] Kenneth CHEN,[2] Rahul SEN,[3] Ralph STANFORD[4] and Sandra LOWE[5]

[1]*Department of Obstetrics and Gynaecology, Royal Hospital for Women,* [2]*Department of Endocrinology, Prince of Wales Hospital,* [3]*Department of Obstetrics, Royal Hospital for Women,* [4]*Department of Orthopaedics, Prince of Wales Hospital, and* [5]*Royal Hospital for Women, Sydney, New Sotuh Wales, Australia*

Cauda equina syndrome is rarely associated with pregnancy, with few cases reported in the literature. The majority of cases describe antenatal presentations, with only one case manifesting post-partum, three weeks after a normal vaginal delivery. We outline a case of cauda equina syndrome following caesarean section in a patient with known lumbar disc disease, and discuss the contribution of the mode of delivery and anaesthesia as precipitants of disc herniation causing cauda equina compression. We conclude that vigilance, particularly in the post-partum setting, be attributed towards the neurological surveillance of women with known disc disease.

Key words: cauda equina syndrome, intervertebral disc displacement, pregnancy, obstetric delivery, caesarean section, obstetric anaesthesia.

Case report

A 31-year-old lady (gravida 4, para 2) with two previous caesarean deliveries presented at 36 weeks gestation with a sudden onset of right buttock pain. Her pain radiated down the right leg and was associated with mild urinary urge incontinence. The patient had a history of known lumbar disc disease, revealed on imaging undertaken for similar back pain following her second caesarean delivery in the previous year; magnetic resonance imaging (MRI) at that time revealed a small right paracentral L5/S1 vertebral disc bulge without impingement of the S1 nerve roots. She was managed non-operatively at the time and was pain-free at booking of her present pregnancy.

The patient had a background of pre-existing essential hypertension and type 2 diabetes. She was previously obese but had lost significant weight with a reduction in body mass index from 35 to 24 following a gastric bypass procedure three years prior.

Correspondence: Dr Sandra Lowe, Royal Hospital for Women, Barker St, Randwick, NSW 2031, Australia. Email: s.lowe@unsw.edu.au

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Examination on this occasion demonstrated mild weakness in right ankle dorsiflexion (L4–5) and a decreased right ankle jerk (S1), with paraesthesia in the S1 distribution bilaterally.

In collaboration with the patient's physicians, a decision was made for early delivery because of her neurological symptoms and difficult glycaemic control. The woman was delivered by caesarean section under a combined spinal-epidural anaesthetic after specialist anaesthetic consultation. There were no obstetric or anaesthetic events of note at delivery. At 17 h post-partum the patient was mobilising and was passing urine following removal of her catheter.

Approximately 36 h post-partum, the patient suffered a sudden episode of faecal incontinence. Examination at this time revealed normal gait and full power in the lower limbs, but new diminished pinprick sensation to the saddle region (S2–5) and absent anal reflex (S4–5). MRI demonstrated a large sequestrated disc prolapse migrating caudally from L5/S1. This filled the spinal canal causing cauda equina compression below the L5 nerve roots. An urgent orthopaedic consultation was sought and the patient underwent a S1 laminectomy and removal of disc fragment the same evening. The patient was able to mobilise immediately postoperatively but failed trials of void. She was referred for rehabilitation and, at three weeks postdischarge, was managing with intermittent self-catheterisation, with only sporadic episodes of faecal incontinence.

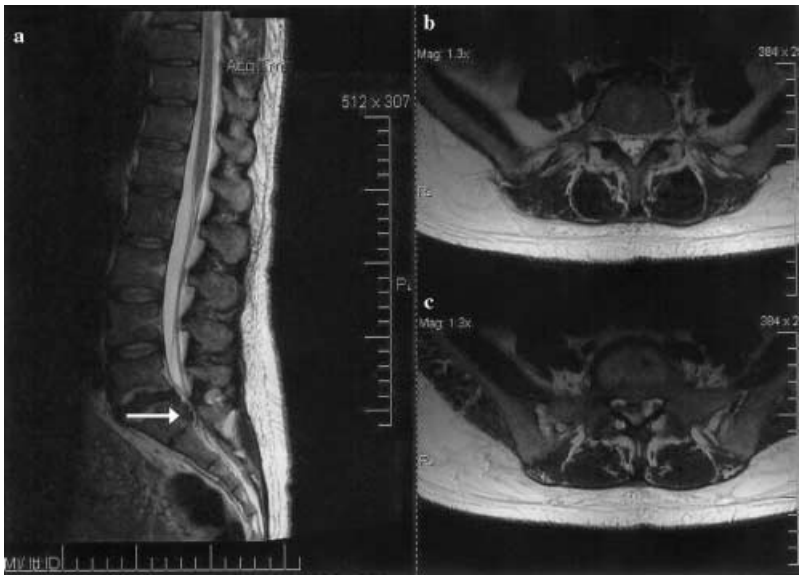

Figure 1 (a) Sagittal T2-weighted magnetic resonance image demonstrating L5/S1 vertebral disc prolapse compressing the cauda equina. (b) Axial image demonstrating normal exit of L5 nerve roots. (c) Cauda equina compression at S1.

Discussion

This case emphasises the importance of interdisciplinary consultation, timing and mode of delivery and anaesthesia to ensure appropriate monitoring and management of women with disc disease in pregnancy and immediately post-partum. Our patient with known disc disease presented with possible S1 radiculopathy at 36 weeks gestation, and proceeded to develop neurological symptoms secondary to cauda equina compression by disc herniation despite early delivery by caesarean section.

Symptomatic lumbar disc herniation is a rare occurrence in pregnancy, with only five cases reported in a series of 48760 deliveries.[1] Relaxin has been implicated in the aetiology of disc prolapse in the third trimester, by its effect on the posterior longitudinal ligament and the intervertebral disc.[2,3] There are, however, no prospective controlled studies associating lumbar disc disease with pregnancy,[4] and pregnancy is probably not a predisposing factor to lumbar disc displacement.[1,2]

Few cases of cauda equina syndrome in pregnancy are reported in the literature and there are no reported cases of disc displacement following caesarean delivery. Caesarean section in this case was planned at booking because of the patient's history of two previous caesarean deliveries. Although the mode of delivery in patients with a herniated lumbar disc remains contentious,[3] caesarean section is preferred. This is because the presumed increases in epidural and cerebrospinal fluid pressures[3] associated with Valsalva manoeuvres[2] in vaginal delivery might precipitate the worsening of neurological impairment.

Neurological complications following obstetric regional anaesthesia are also rare, with a cited incidence of 0–0.35%.[5] Neurological complications have been attributed to epidural haematoma, abscess, catheter trauma, anaesthetic toxicity and hypotension.[5] Although it has been suggested that the presence of lumbar stenosis may increase the risk of neurological complications in epidural anaesthesia,[6] there is no evidence to suggest a preferred method of anaesthesia in the setting of lumbar disc herniation.

To date, discussions in the literature of disc herniation in pregnancy have largely emphasised vigilance in diagnosis and outlined the technique and safety of surgical treatment antenatally.[2,3,7–9] We report a case of cauda equina syndrome in a patient with known lumbar disc disease following caesarean delivery. We have not found evidence to suggest a preferred method of delivery or anaesthesia in the setting of lumbar disc disease, and as such cannot declare a clear precipitant for our patient's cauda equina compression post-partum. We conclude then that where the rest of management might be unaltered, close neurological surveillance be incorporated into the post-partum review of patients with known disc disease to augment the expeditious detection of neurological deterioration.

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Intra-abdominal haemorrhage at 17 weeks gestation caused by placenta percreta: A case report

Elizabeth JUDSON, Alex POLYAKOV and Anthony LAWRENCE

Department of Obstetrics and Gynaecology, Monash Medical Centre, Clayton, Victoria, Australia

Introduction

Placenta percreta presenting as uterine rupture and extensive intra-abdominal haemorrhage early in the second trimester is a rare but potentially fatal obstetric emergency. Prompt resuscitation and aggressive surgical management are crucial in avoiding maternal death. The most common approach is to evacuate the pregnancy with a subsequent hysterectomy, and this strategy results in the lowest maternal morbidity and mortality.[1]

Case report

A 30-year-old woman at 17 weeks gestation presented to the Emergency Department after collapsing at home. She had initially complained of sharp severe suprapubic pain which became generalised. Her only significant past history was a previous lower uterine segment caesarean section which was uncomplicated and performed for maternal request. There was no history of any other uterine surgery.

On admission the patient was disoriented, pale and in moderate distress. She was afebrile, had a blood pressure of 60/20 mmHg and a pulse rate of 120 beats per minute. Abdominal examination revealed a tense distended abdomen with generalised guarding, rebound tenderness and rigidity. An ultrasound scan demonstrated a live intrauterine singleton pregnancy and a large amount of free peritoneal fluid.

Following emergency resuscitation a midline laparotomy was performed, and approximately 1500 mL of blood was evacuated from the abdominal cavity. A large full thickness myometrial defect in the location of the previous caesarean section scar was noted, through which a large amount of placental tissue was protruding and bleeding (Fig.1). A clinical diagnosis of placenta percreta was made and a hysterectomy without prior evacuation of the uterus was performed. Subsequent pathological examination of the hysterectomy specimen confirmed the clinical

Correspondence: Dr Alex Polyakov, Department of Obstetrics and Gynaecology, Monash Medical Centre, Clayton, Victoria, Australia.
Email: physiq1975@hotmail.com

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