

# Cauda Equina Syndrome in a 36 Week Gravida Patient

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**B**ack pain is common in pregnancy. Back pain is most frequently either lumbar pain or posterior pelvic pain, although other patterns have been described, including upper back pain, sciatica, and nighttime-only back pain associated with pregnancy. Back pain is reported 54.8%–76% of the time during pregnancy [1]. The primary causes are extra weight, change in the center of gravity, and hormonal surges [2]. The most common reason for severe low back pain is dysfunction of the sacroiliac joints. Cauda equina syndrome is a rare condition in pregnancy [3]. A comparison of lumbo-sacral disk abnormalities in pregnant women with or without low back pain and asymptomatic non-pregnant women of childbearing age found that 53% of pregnant women and 54% of non-pregnant women had lumbar disk abnormalities (bulges or herniations) [4]. The magnetic resonance imaging (MRI) technique differed for the pregnant and non-pregnant groups. Fifty-three percent of pregnant and 54% of non-pregnant women had an abnormal disk (bulge or herniation) at one or more levels (L3-4, L4-5, or L5-S1).

However, the incidence of symptomatic lumbar disk herniation is rare, with an incidence of 1 in 10,000 pregnancies [3]. To the best of our knowledge, only a few cases of cauda equina syndrome due to disk displacement during pregnancy have been reported in the literature [2]. Acute cauda equina syndrome is considered a

medical emergency. It is believed that the chances of recovery are higher if patients are treated within 48 hours versus more than 48 hours after the onset of cauda equina syndrome. This is exemplified in the case presented below.

## PATIENT DESCRIPTION

A 33 year old Bedouin woman, multigravida, multipara, without chronic illness, was admitted at 36 week gestation to the emergency room of our hospital with symptoms of intermittent back pain, urinary incontinence, and weakness of her right lower limb. Symptoms started abruptly without any known trauma and persisted for 3 days prior to her admission. The patient had not been examined by a physician or had any imaging before her admission.

Physical examination revealed diffuse back pain with limited back movement. She complained of inability to move her leg due to the pain. On examination, there was weakness of the tibialis anterior 4/5, extensor hallucis longus (EHL) 3/5, extensor digitorum rt 4/5, and flexor digitorum 4/5 of right lower limb. Limb reflexes were normal. There was decreased sensation in the L5-S1 nerve root distribution of the limb, and decreased rectal tone and perianal sensation. The patient was catheterized after emptying (voiding); residual urine volume was 1000 ml.

Magnetic resonance imaging (MRI) scan showed a large disk herniation on L4-5 with diskogenic changes (MODIC 2) and obliteration of canal, and L5-S1 herniated disk with intravertebral changes [Figure 1A].

Cesarean section in the regular position, under general anesthesia and with endotracheal intubation, was performed by an obstetrician. A healthy baby girl with Apgar

score of 9/10 was delivered. Immediately following the cesarean section, with the patient in prone position, we performed a partial laminoforaminotomy at L4-5 and discectomy at L4-5 rt.

After surgery, the patient felt relief from the pain, and after hospitalization she was admitted to the rehabilitation center. At 1 year follow-up after surgery, the patient did not suffer from neurogenic bladder or decreased rectal tone, and there were no other signs on neurologic examination [Figure 1B].

## COMMENT

We report the rare occurrence of cauda equina syndrome in a 36 week gravida patient with back pain history and without any prior imaging or physician follow-up. The patient presented weakness of the lower limb, decreased rectal tone and perianal sensation, and urinary retention

**Figure 1. [A]** Sagittal and axial T2 images of the lumbar spine show L4-5 huge herniated disk causing complete obliteration of the spinal canal at this level. Modic type 2 degenerative change is noted at the adjacent end plate. Reduced signal intensity is seen at L3-4 and L5-S1 with a small annular tear





**[B]** Sagittal T2 of the lumbar spine shows signs of recent operation and reopening of the spinal canal after discectomy. There is a new L3-4 small annular tear

(hesitancy). Preoperative chronic back pain was associated with poor urinary and rectal function, and preoperative rectal dysfunc-

tion was associated with worsened outcome in urinary continence. Research has shown a significant advantage to treating patients within 48 hours versus more than 48 hours after the onset of cauda equina syndrome.

The literature clearly indicates that pregnancy at any stage is not a contraindication for administration of an epidural or general anesthesia [3,5]. On the other hand, since waiting can result in permanent neurologic deficit, after delivery we decided on a surgical solution for this rare emergency. The results were good, and the patient suffered no permanent neurological sequelae. Our recommendation, therefore, is that surgical intervention under general anesthesia be undertaken immediately following cesarean section in such cases. Others who encountered this same situation [5] also had good results, and we urge physicians to consider this solution.

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