



## **Post Partum Spondylodiscitis due to Spinal Anaesthesia –A Case Report**

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**Abstract:****Study Design:**

Case report – Two cases

**Aims and objectives:**

To highlight the importance of clinical suspicion of spondylodiscitis as a cause of post partum Persistent back pain

**Materials and Methods:**

Two patients who underwent caesarean section presented with worsening back pain 3 weeks post partum. They were diagnosed to have spondylodiscitis based on MRI and their routine septic screen including urine, blood cultures were negative. They were subjected to a spinal disc debridement and fusion when their CT guided biopsies were negative for infection. Both the individuals had pseudomonas growth which responded to antibiotics given for 6 weeks .

**Discussion& Conclusion:**

Iatrogenic spondylodiscitis can be a potential reason for persistent worsening post partum back pain. Repeated punctures for spinal anaesthesia may be a predisposing factor for spondylodiscitis in immunosuppressed individuals. High degree of suspicion with early investigations( MRI with contrast) can establish the diagnosis. Invasive procedures ( debridement and fusion ) to diagnose and treat infection when the routine CT guided biopsies are negative are clinically rewarding .

**Keywords:**

Spinal anaesthesia; postpartum period; spondylodiscitis , pseudomonas, spinal fusion.

**Introduction**

Iatrogenic spondylodiscitis refers to all clinical manifestations that follow inadvertent inoculation of microorganisms during interventions in and around spinal column<sup>1,2</sup>. Clinical suspicion helps in choosing the ideal early investigations to avoid disease progression. Underlying physiological or pathological conditions may mask the disease in early stages. Spondylodiscitis has been described following spinal anaesthesia where there is compromise in asepsis<sup>1,3</sup>. We report two cases of iatrogenic spondylodiscitis in

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postpartum period following spinal anaesthesia given for lower segment caesarean section in a secondary care hospital. These cases are reported for the rarity of this entity, to highlight the importance of early clinical suspicion and emphasize the role of aseptic precautions in spinal injections.

### **Case 1:**

23 years old lady presented with progressively worsening low back pain for 4 weeks duration. She had undergone an elective lower segment caesarean section for cephalo pelvic disproportion 4 weeks back under spinal anaesthesia. There was history of repeated attempts due to difficulty in successfully achieving a spinal puncture. She was catheterized for the surgery and her immediate post operative period was uneventful. Her surgical wound healed well with 3 days of intravenous broad spectrum antibiotics. There was no history of fever, cough, diarrhea, dysuria or discharge per vaginum. She had started having low back ache one week after procedure which worsened to a severity where she was not able to sit for even 5 minutes with associated difficulty in turning in bed and nursing the child (VAS 8/10). There was no history of fever, radiation of pain to lower limbs or associated weakness. She was suggested oral anti-inflammatory drugs and short wave diathermy with pelvic and abdominal exercises to tide over the pain.

At presentation she had severe paraspinal spasm with movement restriction and no neurological deficits. Radiographs revealed a minimal reduction in L4/5 disc space. Hematological evaluation elevated showed TLC, ESR, CRP. MRI showed evidence of discitis at L4/5 with adjacent vertebral reactive changes (FIG 1,2). With a working diagnosis of post partum spondylodiscitis she underwent a septic screening (sputum, urine, blood cultures) and a CT guided biopsy which turned out to be negative. Considering her significant back pain with limitations in suggesting antibiotics she was suggested surgical debridement and fusion at L4/5. She underwent PLIF L4/5 under GA and had a drastic early pain relief. She was mobilized on post operative day – 1 with lumbo sacral brace. Her pain reduced significantly (VAS 2/10) which needed minimal analgesics (once a day paracetamol 1 gm intravenous infusion) for 5 days. She was able to turn in bed and sit to nurse the child. Her intraoperative tissues sent for culture grew pseudomonas which was sensitive to cefepime + sulbactam. She was initiated on intravenous antibiotics for 2 weeks duration and was followed up with further 4 weeks of oral antibiotics. Radiographs revealed fusion at L4/5 at 3 months (FIG 3,4) of follow up with serological markers normalizing by 6 weeks.



Fig 1: T2 MRI – L4/5 spondylodiscitis



Fig 2: T1 MRI – L4/5 spondylodiscitis



Fig 3: L4/5 PLIF- AP view

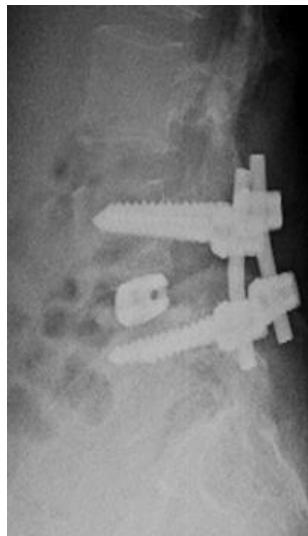


Fig 4: L4/5 PLIF- Lateral view

## Case 2:

32 years old lady presented with worsening back pain for 4 weeks duration following elective caeseran section done for malpresentation. There was history of repeated attempts of puncture for spinal anaesthesia . She was cathetrised which was removed on day 2 and she has received intravenous broad spectrum antibiotics for 5 days duration. Her surgical wound healed well with no documentation of fever, abdominal pain, cough, dysuria or discharge per vaginum. At presentation her pain was predominantly in lower lumbar region ( VAS – 9/10) with severe paraspinal muscle spasm. She was not able to sit for few minutes and had difficulty in turning in bed . she couldn't nurse her child due to pain with inability to assume comfortable postures. Root tension signs were negative with no neurological deficits. Radiographs revealed L3/4 disc space reduction with end plate changes. Hematological evaluation showed elevated TLC, ESR,CRP ( Table 1) . Septic screening for urine , blood and chest infection was negative. MRI showed evidence of spondylodiscitis at L3/4 (FIG 5,6) . She underwent CT guided biopsy which was negative. She later underwent PLIF L3/4 and had grown pseudomonas from the necrotic disc material sent for culture & sensitivity. She was mobilized on day -1 with lumbo sacral brace. Her low back pain reduced significantly ( VAS -2/10) and she needed minimal analgesics ( single dose of intravenous paracetamol ) for one week. She had 2 weeks of intra venous Cefaperazone + sulbactam followed by 4 weeks of oral antibiotics. Radiographs showed fusion by 3 months ( FIG 7,8) and hematological parameters normalized by 6 weeks.(Table 1)

TABLE 1

Parameters	CASE – 1		CASE - 2	
	Pre operative	Post operative ( 3 weeks )	Pre operative	Post operative ( 3weeks )
Hematological parameters				
1)Total count	12,500	8200	11,500	7300
2)ESR	52	28	48	22
3)CRP	12	2	10	3
Clinical assessent				
VAS ( Back pain )	8/10	2/10	9/10	2/10



Fig 5: T2 MRI – L3/4 spondylodiscitis



Fig 6: T1 MRI – L3/4 spondylodiscitis

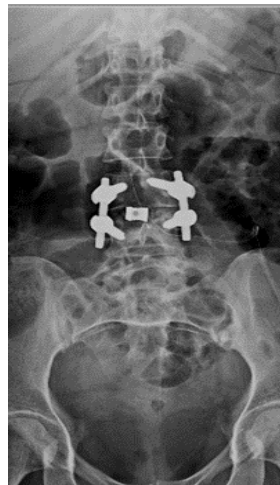


Fig 7: L3/4 PLIF – AP view



Fig 8: L3/4 PLIF- Lateral view

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## Discussion

Low back pain in postpartum period can occur in nearly one third of pregnant women affecting their work and in 10% of individuals it affects activities of daily living<sup>4</sup>. Two pain patterns are described in post partum period – lumbar pain and pelvic girdle pain which have a different source and treatment protocols. Management is often a combination of simple pharmacological measures along with physiotherapy, stabilization belts, nerve stimulation, acupuncture, relaxation ,massage and yoga<sup>5,6,7</sup>.

Spinal infections during pregnancy and post partum period are missed in early stages because they mimic benign lumbar pain and inflammatory markers are not elevated. Delay is further compounded by suggestion of simple treatment protocols considering the time which needs to be devoted for newborn care. Physical modalities such as IFT, short wave diathermy which are often contraindicated in infective pathologies may mask the progress when initiated.

Spondylodiscitis can develop by hematogenous seeding, direct inoculation or spread from infected nearby tissues<sup>8</sup>. Direct inoculation accounts for 25-30% of cases. Spondylodiscitis following lumbar puncture is rare and have been reported in individuals in old age, immunosuppressed individuals<sup>9</sup>.

Inoculation of silent epidural hematoma is considered as the initial event <sup>10</sup>.

Multiple punctures and breach in aseptic protocol can lead to infection.

Most frequent cause of non- tubercular spondylodiscitis is staphylococcus aureus <sup>11</sup> (30-50%). Pseudomonas infection is uncommon cause of spinal infection which is reported in only 5% of cases.<sup>12,13</sup> It is often encountered in I.V drug abusers and immunocompromised individuals<sup>14</sup>.

Pyogenic spinal infections are often treated with organism specific antibiotics for 6 weeks duration based on a CT guided biopsy. Clinical response as decrease in pain and return to normalcy varies according to the infective load and anatomical destruction. Often there is a latency of 2 to 3 weeks to get a desirable reduction in pain. Surgical treatment is considered when the tissue diagnosis is not conclusive , worsening of infection , pain, neurological deficits or worsening vertebral body destruction which can result in kyphotic deformity.

In our patients in view of inconclusive CT guided biopsy and need for early recovery to aid nursing of new born we planned surgical debridement and fusion which was rewarding clinically .

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## Conclusion

Iatrogenic spondylodiscitis should be a strong suspicion in individuals with altered (physiological or pathological) immunity. Early infections in post partum period can be missed and treated as Post partum mechanical back pain which is often diagnosed based on history and clinical signs. Threshold for advanced radiological investigations should be less in post partum period. Surgical fusion of affected spinal segments gives predictable early recovery when the diagnosis is inconclusive.

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