

Cauda Equina Syndrome : Treatment by Endoscopic Discectomy

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Abstract:

Cauda equina is symptom complex associated with paraparesis, saddle anaesthesia, and bowel and bladder dysfunction. It is usually treated with open decompression with variable results and poor improvement in bladder dysfunction. We report a case of cauda equine syndrome treated with endoscopic discectomy and immediate post-operative return of bladder dysfunction and erectile dysfunction on the same day.

Keywords: cauda equina syndrome, endoscopic discectomy

Introduction

Cauda equina syndrome is rare but serious condition caused by compression of nerves in lumbar spine and narrowing of spinal canal. Symptoms are variable in intensity and onset and include progressive weakness in lower extremities, back pain with sciatica, loss of sensation in saddle area, urinary or bowel dysfunction.

The timing of surgical decompression is controversial with variety of opinions about immediate, early and late surgical decompression. Open laminectomy has been done as treatment for this condition. We have done endoscopic discectomy which is a day care procedure.

Case report

A 40yr old male patient came with history of low back pain and radiating pain in right lower limb since 1 month ,urinary incontinence and erectile dysfunction since 15 days .patient was using urinary diapers for bladder dysfunction .

On examination power in both lower limbs was 5/5.Tone was normal. Bilateral ankle reflexes were depressed. Visual analogue score(VAS) Score for leg pain was 8 and VAS for back pain was 4. Patient was admitted and investigated for routine blood and urine investigations for anaesthetic fitness which were normal. X-ray chest and ECG were normal.

MRI lumbosacral spine with screening of whole spine showed mild foraminal and canal narrowing of L2-L3 & L3-L4 level indenting thecal sac and encroaching foramina more marked at L3-L4 level compressing nerve roots (Fig 2). Moderate to severe canal and foraminal stenosis at L4-

L5 andL5-S1 levels with bilateral posterocentral disc protrusion along with facetal and ligamentary hypertrophy compressing intrathecal and bilateral exiting nerve roots.

Patient was operated for the same under iv sedation and local anaesthesia in left lateral position with endoscopic portal inserted posteriorly at L4 L5 level through interlaminar approach and checked under fluoroscopic anteroposterior and lateral images. Discectomy was done with endoscopic disc forceps under continuous irrigation fluid .Distal pulse and movements checked at the end of procedure and single suture applied.

Patient had control over micturition in immediate post operative period. On post operative day 1, patient had improvement in erectile dysfunction. VAS Score for leg pain 24 hrs post operatively reduced to 3 and on follow up reduced to 2 at 1 week and 1 at 6 weeks. VAS Score for back pain 24 hrs post op was 3 and remained at 3 at 1 week and reduced to2 at 6 weeks. This little reduction in VAS score back pain for was probably due to muscle spasm.

Discussion :

Cauda equina is an uncommon entity , accounting for 2-6% of all lumbar disc herniations [2,3,4]. The most distressing features are bowel and bladder dysfunction with some studies reporting poor outcomes [5,6]. .Controversies exist regarding time of operative management. Certain studies although supporting emergency decompression have failed to demonstrate any correlation between timing of surgery and outcome [3,7,8] Open procedures are associated with paraspinal muscle damage, facetal and lamina resection and are associated with considerable post operative morbidity and risks of wound infection or necrosis. Endoscopic discectomy is an effective method for treating lesions like cauda equina syndrome. Risk of post operative wound infection is minimal. It has advantage of being performed on day care basis, with shorter length of hospitalization and early return to work, thus improving quality of life. In endoscopic technique there is no handling of ligamentum flavum or resection .There are less chances of peridural

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Figure 1: Instruments for operative procedure : (1-3) Rongeurs, (4) Working channel Endoscope, (5) Luer-lock adapter, (6) Trephine (7-10) Obturators, (11) Dilators, (12) Guide wire, (13) Working cannula (14) Puncture needle

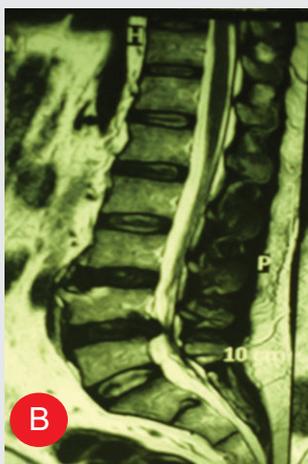
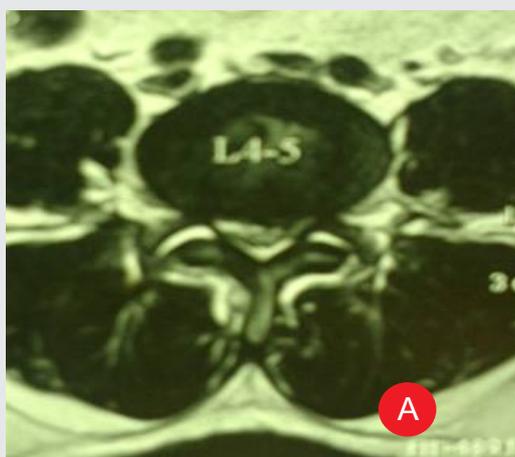


Figure 2: A-coronal section of MRI of the patient
 B- Cross section of MRI of the patient showed mild foraminal and canal narrowing of L2-L3 & L3-L4 level indenting thecal sac and encroaching foramina more marked at L3-L4 level compressing nerve roots. Moderate to severe canal and foraminal stenosis at L4-L5 & L5-S1 levels with bilateral posterocentral disc protrusion along with facet and ligament hypertrophy compressing intrathecal and bilateral exiting nerve roots

adhesions. There is only soft tissue dilation to approach ligamentum flavum. Monitoring in an awake state with obeying of commands during operative period is a vital

component as this allows the patient to report any threat to nerve roots.

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