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# A CASE OF DEGENERATIVE ANTERIOR SPONDYLOLISTHESIS OF L5 OVER S1 TREATED WITH POSTERIOR STABILIZATION WITH CAGE FIXATION AT L5-S1

Orthopaedics

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## ABSTRACT

Degenerative spondylolisthesis is a common cause of spondylolisthesis contributing to about 25% of all cases of spondylolisthesis. A 52 year old obese female patient came with a 10 year history of low back ache. X-ray lumbar spine showed anterior spondylolisthesis Grade III of L5 over S1. MRI of LS spine showed bilateral narrowing of the neural foramina at L5-S1 level. Conservative treatment failed to provide pain relief therefore the patient was treated with posterior stabilization and cage fixation at L5-S1 level.

## KEYWORDS

Degenerative spondylolisthesis, discectomy, cage fixation, posterior stabilization, back pain.

## INTRODUCTION:

Spondylolisthesis is the forward slippage of one vertebra over the other. It commonly occurs at L4-L5 level or L5-S1 level. Degenerative spondylolisthesis typically occurs in women of middle age who are obese[1] and this contributes to 25% incidence of all cases of spondylolisthesis[2]. It is classified as type III in Wiltse-Newman classification of spondylolisthesis[3]. It is characterized by disc or facet joint incompetence due to increased mechanical stress[4]. It can cause radiating pain due to compression of exiting nerve at the foramina. Written consent was obtained from the patient to publish his clinical and radiological data.

## Case Presentation:

52-year-old female patient presented with a 10 year history of back pain without any history of trauma. Patient also complained of pain radiating to both legs for the past 6 months. Patient did not have any symptoms of numbness. Patient was obese with a BMI of 28.7. On examination of the lumbar spine, tenderness was present over the lower lumbar vertebra and movements were painful and restricted. On doing the straight leg raising test patient had pain in the back at 40 degrees bilaterally. X-ray LS spine showed spondylolisthesis Grade III of L5 over S1. X-ray LS spine with flexion and extension (fig-1) were taken which showed a grade III spondylolisthesis according to Meyerding classification[5]. MRI LS spine (fig-2) showed grade III anterior spondylolisthesis of L5 over S1 with disc bulges at levels L2-L3, L3-L4 and L4-L5 and narrowing of bilateral neural foramina at L5-S1.

## Surgical Intervention:

Anaesthetic fitness was obtained and patient posted for posterior stabilization with cage fixation at L5-S1. Under general anesthesia after dissecting skin and sub-cutaneous tissue and dorso-lumbar fascia, ligamentum flavum was cut and incised. Two Pedicle screws of size 40 and 45 mm were inserted on the right side at the L5 and S1 pedicles respectively and two pedicle screws of size 40 and 45 mm were inserted on the left side at L5 and S1 pedicles respectively. Bilaterally short Harrington rods were placed and connected to the pedicle screws and compression was applied to close the pars defect. Discectomy was done at L5-S1 level, exiting nerve roots were identified and cleared of any obstruction. Spinal cage was inserted between L5 and S1. Position was checked under C-arm and was found to be satisfactory. Wound was closed in layers over a drainage tube with sterile dressings.

## DISCUSSION:

This patient had chronic back pain for a period of 10 years. Patient's obesity and age were contributing factors for the patient developing degenerative spondylolisthesis. Conservative treatment failed to provide relief for the patient. Therefore surgical intervention was required in order to provide pain relief. Post-operatively patient reported relief of pain and increased mobility. The advantage of cage fixation is that it maintains the intervertebral space and prevents arthrosis of facet joints and collapse of the neural foramina.

## CONCLUSION:

Surgical spine stabilization procedures can provide good symptomatic relief in chronic degenerative spondylolisthesis patients in whom conservative treatment has failed. Additional advantage of cage fixation apart from posterior stabilization and fusion is that it maintains the inter-vertebral space and avoids future surgeries.

## Case Illustration:

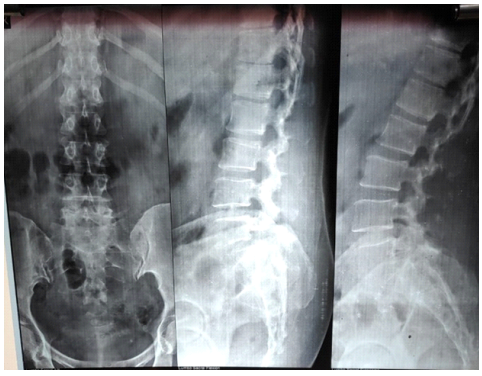

**Fig1 Flexion, Extension X-ray of LS spine**

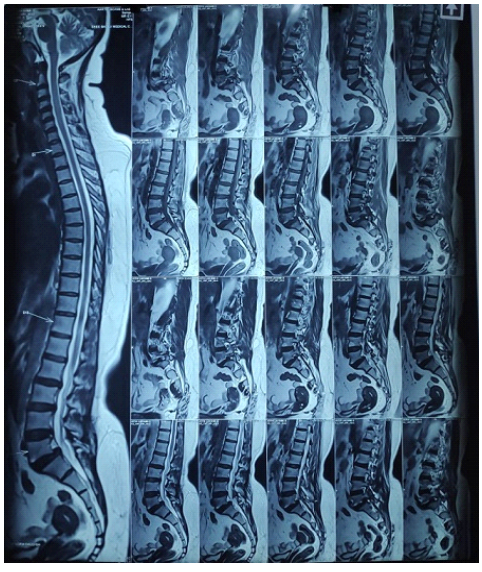

**Fig2 MRI-LS spine: showing the listhesis and disc protrusion at L5-S1 level.**

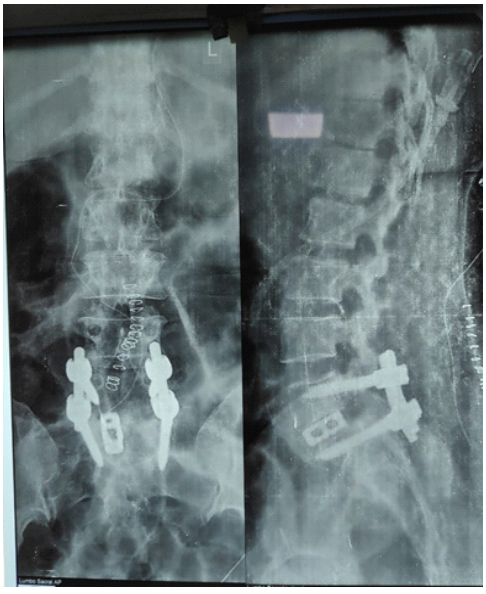

**Fig 3 – Post-op X-ray- LS spine: showing the pedicle screw with short Harrington rod and titanium cage in situ.**

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