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Spine Clinics

Multilevel Lumbar Spinal Canal in a 56 year old Female Patient

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Welcome

Here is our September issue on a common problem of lumbar canal stenosis. This usually presents with pain and claudication. Many treatment options are available; from minimally invasive injection techniques to small implants (interspinous process spacers) to surgical decompression and fusion.

Multilevel Lumbar Spinal Canal in a 56 year old Female Patient

PRESENTATION

This is a 56 years old housewife with a long history of low backache and then leg pain. Leg pain and numbness had become increasingly disabling for a period of about a year before she decided on surgery.

She had initially L5 root symptoms and later also L4 and S1 symptoms, more on the left. There was no neurological deficits at rest.

IMAGING STUDIES

Has imaging studies showed grade 1 degenerative spondylolisthesis L45 with moderately severe subarticular stenosis and also subarticular stenosis at L5S1 and L34.

SURGERY

Decompression of L34, L45 and L5S1 were done. L45 through a partial laminectomy of L4 and L34, L5S1 through limited interlaminar approach.

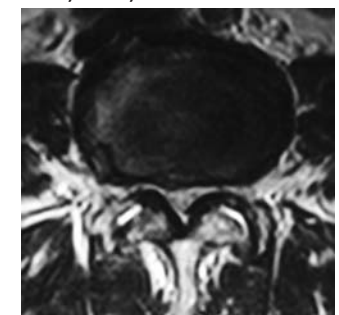
L45 was stabilised with rigid fixation and fusion using pedicle screws, L34 with a dynamic interspinous devices and L5S1 was decompressed only.



Spondylolisthesis L45



Subarticular Stenosis
L34, L45, L5S1



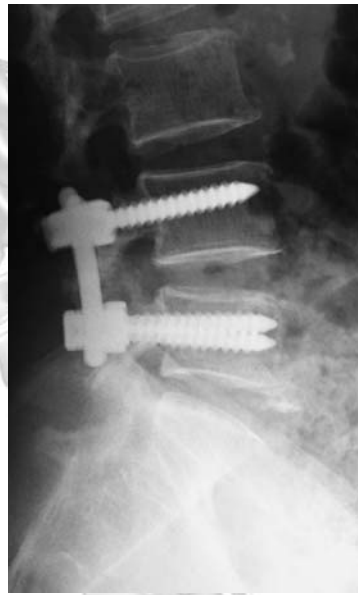
Subarticular Stenosis L45

DISCUSSION

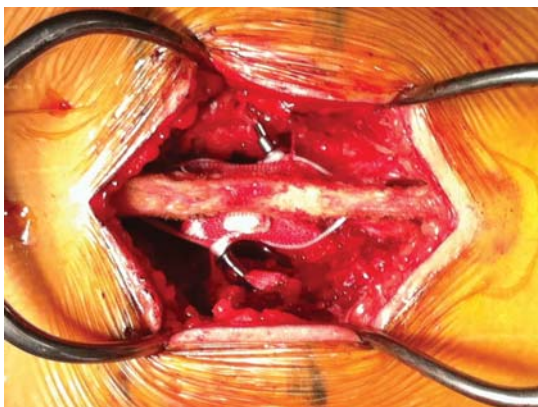
This patient illustrates one of many patterns in patients presenting with lumbar spinal canal stenosis and the available options in surgical treatment. Decompression is necessary to relieve nerve compression. Additional procedure often aims to treat back pain or prevent further deterioration and recurrence of symptoms. The commoner options include fusion and soft stabilisation.

To treat back pain and to prevent deterioration of the spondylolisthesis, L45 fusion was done. At L34, an interspinous device using silicone based implant allows assisted motion and helps to maintain an open foraminal canal. At L5S1, the small sacral spinous process makes the interspinous device ineffective and as fusion was not yet needed, only a decompression was done.

DIAM (Medtronic)



Post operatively, her stenotic symptoms went away immediately and her preoperative back pain was also relieved.



Intraoperative picture of a DIAM



Interspinous Implant (DIAM)

In this case, the interspinous implant used was a DIAM (Device for Interspinous Assisted Motion). Such devices are designed as an alternative to fusion in suitable cases. The DIAM is a silicone based implant inserted between the spinous processes in to allow assisted motion of facets, unloading of the disc and maintain the patency of the intervertebral foramina. The device is kept in place by the retained supraspinous ligament and anchors to the spinous processes.

Orthopaedics International, Neurosurgery International and Sports Medicine International are a group of registered specialist practices comprising 8 orthopaedic surgeons, a neurosurgeon and a sports physician. Operating out of 4 locations within Singapore, we aim to provide patients with comprehensive and professional care for all musculoskeletal, neurosurgical and sports-related conditions. Each specialist brings a range of interests, expertise and sub-specializations to the group, and is also a senior doctor with a minimum of 20 to 30 years of relevant clinical experience behind him. We strongly believe in a team approach, so that every patient of ours will be treated with the highest standards of expertised care that are available.

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