Degenerative lumbar spine disease

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Background

Degenerative lumbar spine disease (DLSO) is a condition that affects the lumbar spine with or without neural compression. Risk factors include age, gender, obesity, and heredity. In most cases, DLSD is found in people over the age of 50.

Symptoms may include back pain, leg pain, numbness, tingling, and difficulty in walking. In some cases, DLSD can lead to serious complications such as paralysis.

Diagnosis of degenerative lumbar spine disease

The primary symptoms of DLSD include back pain, leg pain, and weakness. Many patients with DLSD also experience numbness, Tingling, and difficulty in walking. In severe cases, DLSD can lead to paralysis.

Central lumbar canal stenosis typically presents chronically with or without symptoms of multi-nerv root dysfunction, termed spinal claudication. Thus patients complain of back and progressive leg pain, numbness, and heaviness on walking with symptoms resolving at rest or on forward flexion. Intermittent claudication due to vascular insufficiency in the legs is an important differential diagnosis. Acute central lumbar canal stenosis, usually due to a large prolapsed disc, may present with cauda equina syndrome. The red flags are: sphincter dysfunction with painless urinary incontinence and reduced anal tone, saddle numbness and bilateral claudication. The diagnosis is made with MRI scan which clearly demonstrates neural elements and defines any areas of bony, ligamentous or discal degeneration and compression.

Management of degenerative lumbar spine disease

Management of DLSD requires a multi-disciplinary team approach comprising of, at least, neurosurgeon/spinal surgeons, a neuro-radiologist, pain specialists and physiotherapists. This is important to provide the patient with the most effective treatment for their particular symptom. Although patients with DLSD represent the biggest group of patients seen in a general neurological clinic, only a small proportion will ever need surgery.

In many cases, non-surgical treatments are effective in managing DLSD. These may include: physical therapy, medication, and lifestyle changes. Other non-surgical treatments include injections and surgery.

In patients presenting with acute/acute isolated back pain, without neural compression or spinal instability, conservative measures are likely to settle the pain in the majority. Measures include weight reduction, structured exercise programmes, analgesics, and psychological interventions.

In patients with chronic pain, more than one year, epidural injections, transcutaneous electrical nerve stimulation (TENS), and combined physical and psychological rehabilitation programmes may be of additional benefit. The role of surgery in such patients remains controversial. Spinal fusion may benefit selected patients. When instability (degenerative spondylolisthesis) complicates back pain, spinal fusion may achieve good pain control. Percutaneous spinal instrumentation systems now available, allow minimally invasive surgery with more rapid recovery and a shorter hospital stay.
In patients with DLSD and radicular pain, conservative measures are usually sufficient to improve the symptom in six to eight weeks. If severe pain persists beyond this time, or if a motor neurological deficit, such as a foot drop, is present, serious consideration should be given to surgery. The timing of surgery is particularly important if neurological recovery is to be achieved. The aim of surgery is to decompress the neural elements and the most common operations performed are laminar laminectomy and lumbar microdiscectomy. The recent development of endoscopic microdiscectomy technique allows day-case local anaesthetic surgery with the additional benefit of excellent cosmetic results. Spinal cord stimulation remains an effective treatment in patients with severe pain especially if pain persists despite decompressive surgery.

**Prognosis of degenerative lumbar spine disease**

The prognosis of patients with DLSD depends on the underlying diagnosis, delivery of prompt treatment and psycho-socio-economic factors. Well motivated patients with a good social support network are more likely to recover well and resume work. Despite all the treatment available, some 10 percent of patients become chronically disabled, especially with back pain. In others, conservative and surgical measures are effective in improving the symptoms. Spinal stenosis and radicular pain respond well to surgery with up to 90 percent pain relief. When motor weakness is present or in patients with cauda equina syndrome, the timing of surgery is crucial in determining any neurological recovery with the best results seen in patients operated within 48 hours of presentation. The prognosis for recovery of sensory deficits such as numbness and paraesthesia is less predictable.

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