Degenerative lumbar spine disease

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Background

Degenerative lumbar spine disease (DLDSD) is an achronical, degenerative condition of the lumbar spine with or without neural compromise in the population. Imaging evidence of DLDSD is present in over 50% of those over the age of 70. The condition is more common in people over 60 years of age. The symptoms however, are not in all cases the result of DLDSD. Other conditions that may contribute to such symptoms include arthritis, obesity, and radiculitis.

Diagnosis of degenerative lumbar disease

The primary symptom of DLDSD is pain in the lower back and buttocks. The pain may also radiate down the leg. The pain is often described as a dull ache or aching sensation. The pain may be felt on one or both sides of the body. The pain may be relieved by sitting or lying down. The pain may be made worse by standing or walking.

Central lumbar canal stenosis typically presents with symptoms of lower back pain, radicular pain, and weakness in the legs. The pain is usually worse when walking or standing. The symptoms may be relieved by sitting down. The diagnosis of central lumbar canal stenosis is made by imaging studies such as MRI, CT, or myelography.

Management of degenerative lumbar spine disease

Management of DLDSD requires a multi-disciplinary team approach comprising of, at least, neurosurgeons/spinal surgeons, a neuro-radiologist, pain specialists and physiotherapists. This is important to provide the patients with the most effective treatment for their particular symptoms. Although patients with DLDSD represent the biggest group of patients seen in a general neurosurgical clinic, only a small proportion ever require surgical intervention.

In patients presenting with acute/subacute isolated back pain, without neural compression or spinal instability, conservative measures are likely to settle the pain in the majority. Such measures include weight reduction, structured exercise programmes, analgesics such as paracetamol, non-steroidal anti-inflammatory drugs or opioids, physiotherapy, spinal manipulation by qualified osteopaths or chiropractors, and acupuncture. In patients with chronic pain (more than one year), epidural injections, transcutaneous electrical nerve simulation (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 defect, 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 lumbar 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-social-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 per cent of patients become chronically disabled, especially with back pain. In others, conservative and surgical measures are effective in improving the symptoms. Spinal claudication and radicular pain respond well to surgery with up to 90 per cent 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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