

# Sudden bilateral foot drop without cauda equina syndrome: An unusual presentation of lumbar disc prolapse

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## Abstract

Bilateral acute foot drop is reported in a 59 year-old healthy male. He presented with a 2 days history of severe backache, sciatica and a history of sudden bilateral ankle weakness that progressed to bilateral foot drop. Investigations revealed a large central disc prolapse at L4/L5 with significant canal stenosis. Following surgery the patient had progressive improvement. Compression of the cauda equina is an uncommon presentation of lumbar disc (2). Rarely, lumbar disc herniation may produce bilateral foot drop. Acute unilateral foot drop has been well described in the literature (3). We report a rare case of a bilateral sudden foot drop, due to an acute central disc prolapse at L4/L5 level, without cauda equina syndrome which has not been reported previously in the literature.

## CASE REPORT

A 59 year old engineer presented with a 3 months history of intermittent low back pain complicated by a sudden onset of left sided sciatica. He developed rapidly progressive bilateral leg weakness which began in the right leg then affected the left. Paraesthesia of the left calf, leg and dorsum of the foot was reported. Of note he reported no urinary or bowel problems. There was no history of trauma and he was systemically well with no significant past medical history.

On examination he was normotensive and afebrile. Examination of the lumbar spine revealed no midline or paraspinal tenderness. Straight Leg Raise (SLR) was to 80 degrees bilaterally. He had Medical Research Council (MRC) grade 4 muscle strength for left knee flexion and grade 2 muscle strength for ankle dorsiflexion bilaterally. He had bilateral absent ankle jerks with normal knee jerks. Perianal sensation and tone were normal.

His White Cell Count (WCC) was elevated at  $15.8 \times 10^9$  and his C Reactive Protein (CRP) was 166 mg/L. Other routine blood tests were unremarkable. Radiographs of the lumbar spine only showed some early degenerative changes.

Pain progressed over the following twenty four hours and power in both feet weakened to grade 1. An urgent Magnetic Resonance Imaging (MRI) scan of the lumbar spine revealed a massive disc prolapse at L4/5 with almost complete obstruction of the spinal canal. He was taken to theatre and

underwent a lumbar discectomy and transforaminal lumbar interbody fusion of L4 to L5. Post operatively his neurology has improved and at one month post surgery he had grade 3 motor strength of ankle dorsiflexion and at 6 months of physiotherapy it improved to grade 4.

## DISCUSSION

Cauda equina syndrome secondary to lumbar disc herniation has a rare incidence. Typical clinical features include altered perianal sensation and bladder or bowel dysfunction (4). Bilateral leg symptoms are reported to be suggestive of an impending cauda equine syndrome. Onset usually occurs gradually on a background degenerative disc disease. Occasionally, the syndrome may be restricted to one side and is termed hemi-cauda equina syndrome (7).

Bilateral foot drop is a rare condition, and has been reported as the presenting feature in lumbar canal stenosis (8). Other reported aetiologies include Churg - Strauss syndrome (9) which is also known as allergic granulomatosis, is a medium and small vessel autoimmune vasculitis, leading to necrosis, hypothyroid myopathy (10), concomitant HIV type 1 and human T-cell leukaemia virus type 1 infection (11), Crohn's disease (12) post electroconvulsive therapy (13) and anorexia nervosa (14). Bilateral foot drop may be a presenting feature of other neurosurgical remediable lesions, such as a parafalcine mass lesion (15).

Acute foot drop is rare and acute bilateral foot drop due to lumbar disc prolapse has not been previously reported in the

literature. In a case series by Chang et al (6) one patient had a unilateral foot drop but there were no reported bilateral symptoms. Our patient is making a good recovery following surgery and it is well recognised that emergency surgery is associated with a better outcome in patients with true cauda equina.

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