A 53 year old woman was referred to the general medical outpatient clinic. She had no relevant past medical history. Her main complaints were those of numbness and burning over her entire right forearm and hand. She felt that a recent cough had exacerbated the pain. In addition, she had burnt her right hand twice in the last month without even noticing. She denied any history of neck pain or stiffness and there was no history of spinal trauma.

On examination, she looked well and undistressed. There was nil of note on examination of the cardiorespiratory system or the abdomen. There were no palpable breast lumps or lymphadenopathy. Examination of the cranial nerves and lower limbs was unremarkable and in particular there were no long tract signs. The left upper limb was normal from a neurological point of view. On neurological examination of the right upper limb, both the biceps and supinator jerks were absent. In addition there was grossly impaired sensation of pain over the C3–T2 dermatomes. Light touch and vibration sense were preserved over this area. There was early wasting of the intrinsic hand muscles with an associated reduction in distal power. The tone was normal.

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QUESTIONS
(1) What is the likely diagnosis?
(2) What is the differential diagnosis?
(3) What relevant investigations would you request?

Authors’ affiliations
D Gaya, P McGill, Department of General Medicine, Stobhill Hospital, Balornock Road, Glasgow G21 3UW, UK
Correspondence to: Dr Gaya; danielgaya@aol.com
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A 65 year old woman presented with a history of low back pain of 18 months’ duration. There was radiation down the right lower limb posteriorly down to the ankle and the dorsum of the foot for the previous six months. Pain was aggravated by sitting and activity. Back to leg pain ratio was 40:60. There was no history of claudication pain. She did not have symptoms of weakness of legs or of bowel/bladder involvement.

She had a positive straight leg raise test on right of 50 degrees with positive sciatic stretch test. There was reduced sensation in right L5 nerve root distribution. No motor or sphincter involvement was present. The rest of the spinal examination was normal. Radiography revealed degenerative changes in the lower lumbar spine. Magnetic resonance imaging (MRI) scans (sagittal and axial views) of the patient are shown in figs 1 and 2.

(2) What is the likely diagnosis?
(3) What is the usual line of management?

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Authors’ affiliations
M Belthur, R Thonse, Department of Orthopaedics, Royal Orthopaedic Hospital, Northfield, Birmingham, B31 2XP, UK
Correspondence to: Mr Belthur; mohanbelthur@hotmail.com
Submitted 20 June 2001
Accepted 21 August 2001

Figure 1  Sagittal T2-weighted MRI scan of the lumbosacral spine.

Figure 2  Axial T2-weighted MRI scan of the lumbar spine at L4/5 level.