A case of cauda equina syndrome

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A middle-aged woman presents with persisting weakness and paraesthesia after being treated surgically (with disc compression) for acute compressive cauda equina syndrome.

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CASE SCENARIO

Wilma, aged 51 years, presented for help for her depression. She had had a difficult few years. She had left an abusive husband and soon after had suffered from a prolonged viral type infection that had left her exhausted and with what she said had been diagnosed as 'cauda equina syndrome'. She reported that, without any obvious trauma, she had developed severe low back, buttock and perineal pain associated with bilateral leg weakness and paraesthesia, and bladder and bowel weakness. The pain had been such that she had been opiate dependent for many months, had been unable to keep working and had ultimately been treated with disc decompression that had only marginally helped her pain. By the time of this consultation, however, she was managing better but the major problem was with persisting weakness and paraesthesia. Her only current regular medication was gabapentin.

What has happened to Wilma and how should she be managed?

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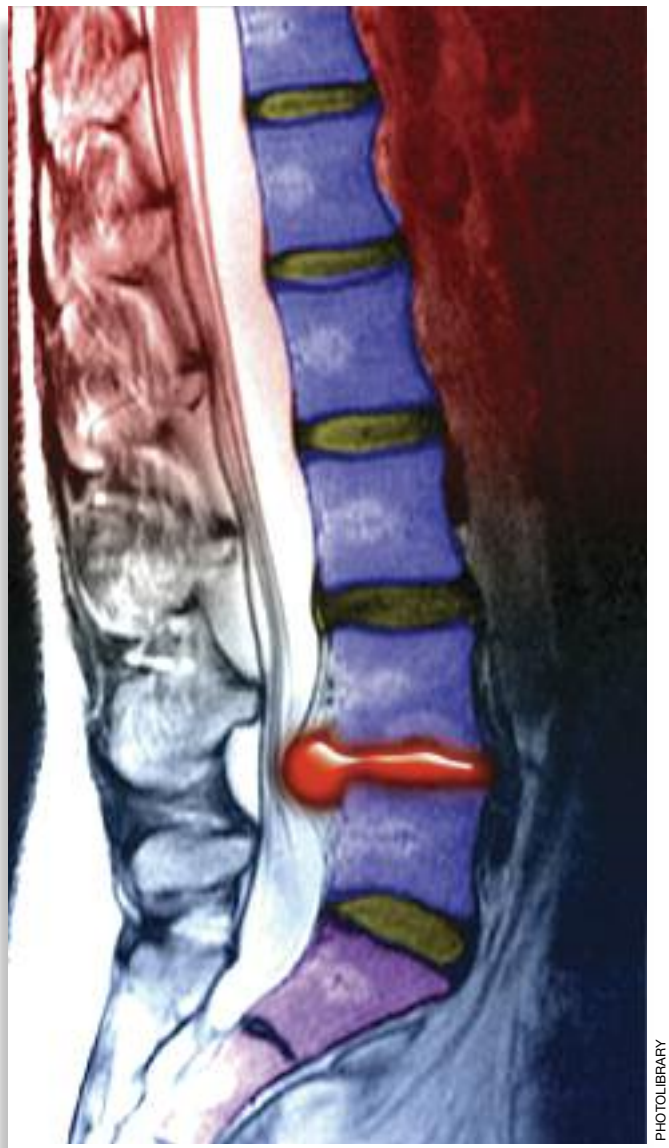

PHOTOLIBRARY

Figure. Large L4/5 central disc protrusion causing cauda equina compression.

COMMENTARY

What has happened to Wilma?

In cases of acute cauda equina syndrome caused by a large disc protrusion, the classic presentation is acute onset of sphincter disturbance with or without lower motor neurone deficit (depending on the level of injury). This is often associated with pain. This syndrome as a late consequence of a known disc protrusion is quite uncommon. It should be treated as a surgical emergency with decompression of the canal as soon as possible.

It is unlikely that Wilma's prolonged viral-type infection predisposed her to the disc protrusion directly. However, deconditioning and lack of paraspinal stabilisation may have arguably increased disc load. Degenerative disc protrusions are generally the culmination of accumulated stresses within the disc, leading to acute annular disruption often with no or minimal precipitant.

It appears that Wilma has suffered from a large lumbar disc protrusion. There seems to have been some delay between the onset of symptoms of this disc protrusion and its definitive management with surgery. Factors that may have contributed to the delay in treatment of a patient with a serious neurological event, such as cauda equina syndrome, would include premorbid mood disorder, prior nonspecific complaints of 'chronic fatigue' and the relative rarity of the condition.

Patients experiencing significant anxiety and/or depression, with multiple complaints and possible substantial background secondary gain, especially in a compensable setting, are at high risk of being under-examined and under-investigated when a substantial organic condition occurs. Pain and sphincter disturbance are substantially modified by mood factors, and the most common cause of sphincter disturbance in patients with spinal conditions is pain rather than neurological disturbance *per se*.

The overwhelming majority of patients with spinal conditions seen in primary (and specialist) practice have a benign neurological and structural prognosis. It is uncommon for patients with lumbar disc protrusions to benefit from very early intervention (acute cauda equina syndrome from compression and acute severe footdrop being urgent exceptions).

Most patients presenting with pain related to a lumbar disc herniation have little or no neurological deficit and therefore benefit from an initial expectant approach. In most cases this leads to an avoidance of surgery in the longer term and a good outcome.

The delay to surgery in Wilma's case could have contributed to residual symptoms, especially those related to the sacral nerve roots. Ongoing incontinence and perineal sensory disturbance along with sexual dysfunction can be significantly disabling together with motor weakness in the legs. Prolonged sensory nerve compression may have led to neuropathic pain with a typical burning quality. This can respond well to GABA analogues (antineuritics) such as gabapentin. As is the case with diagnosis, the psychosocial filter through which all this is experienced would potentially magnify the symptoms.

How should Wilma be managed?

The most important step on first meeting Wilma is to carefully determine the extent of her neurological deficit and, if possible, determine whether it is currently stable, improving or worsening. This may require accessing other doctors' records to compare notes because Wilma's self-assessment would probably tend to be pessimistic. If her condition is stable/ improving after some months, it is unlikely that she will benefit from further surgery; however, if there is adverse progression it may signal ongoing injury.

Reimaging is critical, even if you are reasonably satisfied with Wilma's progress, because she needs an accurate anatomical baseline moving forward. If she is deteriorating neurologically this may reveal a cause. Ongoing sphincter disturbance can be further assessed with urodynamics and with anorectal manometry or electromyography. Leg electromyography is also of benefit if weakness is substantial to determine if there is active denervation persisting compared with chronic changes as would be expected.

Cognitive behavioural programs, which are often run through multidisciplinary pain clinics, would be a desirable addition to Wilma's care both to help manage her pain primarily and also to give access to formal ongoing psychiatric or psychological care. Referral of Wilma to a rehabilitation physical therapist will allow her to maximise her residual motor function and if possible build core strength, flexibility and durability. At some stage if the pain is continuing to improve, efforts should be made to slowly wean Wilma off gabapentin.

CONCLUSION

Overall Wilma should be encouraged to return to as normal a lifestyle as possible and limit the impact her ongoing symptoms have on her nonvocational lifestyle. Efforts should be made to decatastrophise her thinking and reassure her that in most cases the future is one of stability and usually improvement. MT

COMPETING INTERESTS: None.