



## “Doctor, please help! I’m so tired of the pain.”

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Laura, 53, has been experiencing lower back pain and bilateral leg pain for the last three years. It began after she lifted a heavy object at work. Her condition further deteriorated with strenuous physical activity. Laura describes the pain as a tightening sensation of the mid-lower lumbar area, with a tendency to radiate into the buttocks and lateral aspect of the thighs. She also has a recurrent spasm of her back muscles. Conservative treatment with anti-inflammatories, analgesics and trigger point injections did not relieve the pain.

### Medical history

Laura’s past medical history (including her family’s medical history) is unremarkable except for the fact that she:

- Has dyslipidemia
- Has an allergy to sulpha
- Had a hysterectomy 10 years ago for endometriosis and two cesarean sections
- Has smoked half a pack of cigarettes a day for the last 25 years
- Has had a few episodes of incontinence, but is now able to empty her bladder without difficulty
- Is currently taking:
  - 5 mg of diazepam h.s. to help her sleep and to relieve her muscle spasms
  - Acetaminophen with codeine as needed for pain
  - Pravastatin for high cholesterol

### Physical examination

A physical examination finds the following:

- BP: 142/82 mmHg
- Pulse: 72 bpm
- Respiratory rate: 21 breaths per minute
- Weight: 68 kg
- Height: 163 cm
- Chest is clear
- Heart sounds are normal
- Peripheral pulses are palpable
- There is no edema
- Abdomen is soft, with no mass and no organomegaly

A neurological examination notes severe restriction in the range of motion in Laura’s lumbar spine. There is 55% flexion and 40% extension of the thoracolumbar spine. Rotation and lateral bending are approximately 60%. Most of her movements are restricted because of pain radiating to her buttocks. A straight leg raising test is bilaterally negative. Her muscle tone is within normal limits. The plantar response is downgoing. There are no sensory or motor abnormalities.

*This condition affects both males and females equally.*



Figure 1. MRI scan of thoracolumbar spine (sagittal view).

### *Clinical investigations*

Clinical investigations show normal:

- Blood work
- Chest x-ray
- EKG

A MRI scan of the thoracic and lumbar spine reveal a 2 cm mass in the region of the conus which is of fatty signal intensity within the dural space at the L2 level. The conus medullaris is displaced to the right without significant compression (Figures 1 and 2).

### *What's your diagnosis?*

- a) Neoplasm of the spinal cord
- b) Lipoma of the spinal cord
- c) Arteriovenous malformation of the spinal cord
- d) Abscess of the spinal cord

*Answer: B*

### *Lipoma of the spinal cord*

#### *Spinal lipoma*

A spinal lipoma is an intraspinal mass of fat and fibrous tissue that occurs in continuity with the adjacent spinal cord. Spinal lipomas are the most common type of occult spinal dysraphism and are classified as follows:

- lipomyelocele or lipomyelomeningocele (84%),
- fibrolipoma of the filum terminale (12%),
- intradural lipoma (4%).

#### *Presentation*

A spinal cord lipoma is a benign tumour made up of normal fat lying within the otherwise normal spinal cord. These are rare lesions that affect males and females equally. They are most commonly located within the thoracic spinal cord. They may be symptomatic and more commonly present in adulthood.

Lipomas of the conus medullaris (or lipomyelomeningocele) are the most common form of fatty masses in the spine and can be divided into the following forms:

- dorsal,
- caudal and
- transitional.

In this region, they have a tendency to infiltrate the conus medullaris and produce some irritation. (Lipomas cause irritation to a patient's spine). These lesions are a manifestation of occult spinal dysraphism and are a common cause of the tethered cord syndrome.

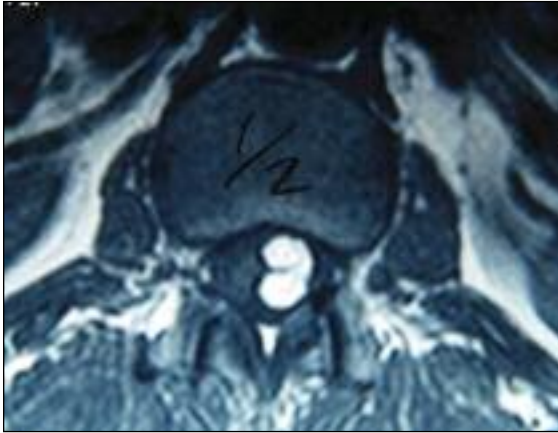


Figure 2. MRI scan at the L2 level (transverse view).

*The natural history of untreated lipomyelomeningocele appears to be progressive neurological deterioration with loss of bladder control.*

### Pathology

The natural history of untreated lipomyelomeningocele, although not completely understood, appears to be progressive neurological deterioration with loss of bladder control. Progression of the disease reveals gradual

evidence of spinal cord compression. This compression can lead to:

- sensory changes (numbness, tingling),
- weakness,
- difficulty with urinating or with bowel movements,
- incontinence and
- spasticity (stiff feeling) of the extremities.

### Treatment

A laminectomy is performed to gain opening to the spinal cord. The goal of the procedure is not the total removal of the fat but rather the substantial debulking of the lipoma and untethering of the spinal cord. A direct approach of the tumour would carry much too high a morbidity. No other treatment method is recommended. **Dx**

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