Red Flags in Back Pain

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Acute and chronic back pain are very common reasons for patients to see their FPs. The lifetime prevalence of low back pain is reported as > 70% in industrialized countries (one-year prevalence is 15% to 45%; adult incidence is 5% per year).[1] The majority of these patients will improve on their own and will not require further investigations or specific treatment. However, a small portion will harbour more serious pathology. A list of red flag symptoms is commonly used to help identify this group. These red flags suggest the potential of serious underlying pathology that requires further investigation and possible treatment. Red flags include:

- Thoracic pain
- Fever
- Weight loss
- Bowel/bladder dysfunction
- History of carcinoma
- Neurological deficits
- Abnormal gait
- Saddle anesthesia
- Age < 20 or > 55 years
- Trauma
- Immunosuppression
- Chronic use of steroids
- IV drug use
- Night pain

Justin's case

Justin, 52, presents with a 4-month history of right leg radiculopathy and back pain. His pain is worse at night, both in his back and legs. He is able to continue his occupation in police services. He had no response to physiotherapy and is using an oral analgesic with codeine at night to help him sleep.

Over the 2 months prior to his presentation, his symptoms progressed to include numbness in several dermatomes. Justin denies any bowel or bladder issues, or systemic symptoms of fatigue and/or weight loss.

Examination

Justin has a normal neurologic exam, with mild pain to both the right and left side when performing the straight leg raising test.

Questions

1. After 4 months of persistent radiculopathy, what imaging should be done?
2. What is the significance of Justin's night pain?

Turn to page 80 for more on Justin.

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Justin's case cont'd...

Radiology

A CT scan shows only a mild disc herniation at the fourth and fifth lumbar discs with no significant nerve root irritation. Justin's pain continues to increase and becomes bilateral leg pain. A MRI scan is then performed showing a large intradural lesion, most consistent with a schwannoma, at the first lumbar disc, compressing the entire cauda equina.

Surgical resection of the tumour results in improvements of both back and leg pain.

Not surprisingly, the CT scan does not cover the upper lumbar region and it is also likely that the tumour would not have been identified anyhow due to its low density.

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Thoracic pain

Thoracic pain is unusual as degenerative disease tends to affect the cervical and lumbar spine. Thoracic pain often accompanies scoliosis, osteoporotic fractures and, most importantly, metastatic disease. A history of carcinoma, immunosuppression and IV drug use tend to point toward pathologic fractures, either tumour or infection, that will require further treatment. Additionally, neurologic deficits of any kind point towards nerve root or spinal cord compression and should prompt the physician to inquire about Cauda equina syndrome symptoms (Table 1). Compression of the spinal cord may be painless unless a root is also irritated. A painless myelopathic process can be very insidious and easily missed (Table 2).

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Table 1

Cauda equina syndrome symptoms

- Bilateral leg pain/numbness
- Saddle anesthesia
- Loss of both ankle jerk reflexes
- Urinary retention and stool incontinence
- Decreased anal tone

Yellow flags

Yellow flags are markers of underlying psychosocial factors shown to be indicative of long-term disability. While not immediately important for medical decision-making, they are helpful when viewing the patient as a whole and in their ultimate case management. To avoid long-term problems, it is important to engage early with these patients and to encourage the early return to work and a "normal" life.

Yellow flags include:

- Negative attitude that back pain is harmful or potentially severely disabling
- Fear, avoidance behaviour and reduced activity
- Expectation that passive (vs. active) treatment will be beneficial
- Tendency to depression
- Social or financial problems

Table 2

Symptoms and signs of myelopathy

Symptoms

- Bilateral hand numbness/tingling
- Loss of dexterity and fine motor control in hands (ask about buttons, jewelry, typing and writing)
- Gait disturbance and balance problems (often worse in the dark)
- Stiffness or jumpiness in legs
- Electric shocks down back into legs (Lhermitte's sign)

Signs

- Hyperreflexia
- Hoffman's sign
- Clonus

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Investigations

Outside of those patients exhibiting red flags, there is no utility in imaging their spines early. Most low back pain guidelines do not support the use of x-rays.[2] Support and education regarding low back pain is the most helpful in this patient group.

In those presenting with red flags, x-rays and possibly CT or bone scans may be appropriate to help rule out neoplastic or structural causes of the pain.

Take-home message

- Consider abdominal/retroperitoneal pathology with referred back pain (*e.g.*, aneurysm, renal pathology)
- CT scan protocols at most hospitals only image from the third lumbar disc to the sacrum
- CT imaging may not pick up intradural tumours

Treatment of low back pain

Treating low back pain involves providing information, while reassuring the patient that low back pain is usually not a serious disease and that rapid recovery is expected.

If necessary, FPs should provide adequate symptom control.

Always recommend that the patient stay as active as possible and returns (as soon as possible) to normal activities, including work. Dx

References

1. Andersson GBJ: The Epidemiology of Spinal Disorders. In: Frymoyer JW (ed.): *The Adult Spine: Principles and Practice*. Second Edition. Raven Press, New York, 1997, pp. 93-141.
2. Chou R, Qaseem A, Snow V, et al: Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society. Annals of Internal Medicine 2007; 147(7):478-91.