Disorders of the thoracic spine: non-disc lesions

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Introduction

Non-disc lesions of the thoracic spine comprise the following disorders:
• Tumours
• Extradural haematoma
• Spinal cord herniation
• Spinal canal stenosis
• Vertebral fracture
• Chest deformities
• Fracture of a transverse process
• Spinal infections
• Lateral recess stenosis
• Localized lesion of costovertebral and costotransverse joints
• Localized lesion of a facet joint
• Paget’s disease.

Very often, the signs and symptoms of the non-disc lesions of the thoracic spine resemble those of discodural disorders.

Some of the lesions mentioned are serious and even life-threatening. Therefore examiners must be on their guard and should immediately request further investigation whenever there is doubt about the exact diagnosis.

Warning symptoms and signs that warrant the examiner’s attention are listed here and are summarized in Box 28.1.

Warning symptoms and signs

Symptoms

Progressively increasing pain

In disc lesions the pain may increase over a short period or come and go. In expanding lesions the pain tends to increase continuously. This may occur quickly over days (extradural haematoma), weeks to months (malignant diseases) or even longer periods (benign tumours).

Expanding pain

Pain that not only increases in intensity but also expands to occupy a larger area is very likely to be caused by an expanding lesion, most commonly a malignant disease or an extradural haematoma.

Continuous pain, not changed by posture or activity

Although this symptom is less alarming than the previous ones, a mechanical disorder is unlikely in the absence of variation of symptoms on movement. Nevertheless, the situation in the thoracic spine is slightly different from the rest of the spine because its rigidity sometimes results in a lack of change in pain with activity. Pain that is worse at night is seldom caused by a disc lesion, and is more suggestive of a rheumatic disorder, infection or trauma.

Increasing postoperative thoracic backache

Surgery correctly indicated and performed, but which is still followed by continuous pain, demands a fresh diagnostic evaluation. A clear relationship between what is found on further investigations and the patient’s symptoms must be established. Local infection and a tumour must be excluded.
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usually points to a non-mechanical disorder, such as ankylosing spondylitis or a tumour.

Gross limitation of extension

In an ordinary disc lesion it is usually anteflexion or one of the rotations that is most painful and limited. If active extension is severely limited and painful, attention is drawn to the possibility of a fracture of a vertebral body, an infection or a tumour. There is only one type of thoracic disc lesion in which severe limitation of active extension can occur: acute thoracic lumbago. In acute thoracic lumbago, other movements are, of course, also limited and/or painful.

Pain and limitation of side flexion away from the painful side as the only positive finding

This pattern suggests that a lesion is being stretched to such an extent that the pain becomes so severe such that the movement is arrested involuntarily. This may indicate a neoplasm in the lung or abdomen, or a thoracic neurofibroma.

Flexion with a rigid thoracic segment

Absence of movement at the thoracic level indicates a disorder other than a disc lesion. Ankylosing spondylitis is a possibility, as are advanced osteoarthrosis, fracture, tumour or a vertebral infection.

Neurological signs

The presence of one of the following neurological signs should always put examiners on their guard.

- Signs of involvement of multiple nerve roots
- A band-shaped area of numbness related to one or more dermatomes
- All signs of cord compression
- Muscle spasm
- Local paravertebral mass

First symptoms and signs in the thoracic area in patients over 50 years of age

Because both intra- and extraspinal tumours occur mainly over the age of 50, symptoms that first appear beyond middle age arouse suspicion. Moreover, disc lesions become less frequent with increasing age because of increasing stiffness of the spine.

Central pain radiating bilaterally around the thorax and spreading anteriorly towards the epigastrium

Although a posterocentral disc protrusion may provoke this type of pain, a tumour or an extradural haematoma should always be excluded.¹

Signs

The following may draw attention to non-discal lesions.

Gross limitation of both side flexions and rotations

In older patients it is normal for these movements to be diminished in range, although the limitation should not be major. In younger patients gross limitation is never normal; if present, it

Box 28.1

Summary of warning signs

History

- Progressive increasing pain
- Expanding pain
- Continuous pain, not changed by posture or activity
- Increasing postoperative thoracic backache
- First symptoms and signs in people over 50 years of age
- Central pain radiating bilaterally and spreading anteriorly

Examination

- Gross limitation of both side flexions and rotations
- Gross limitation of extension
- Pain and limitation of side flexion away from the painful side as the only positive finding
- Flexion with a rigid thoracic segment
- Presence of one of following neurological signs:
  - Signs of involvement of multiple nerve roots
  - A band-shaped area of numbness
  - All signs of cord compression
  - Muscle spasm
  - Local paravertebral mass

Access the pathology of the non-mechanical disorders of the thoracic spine and the complete reference list online at www.orthopaedicmedicineonline.com

2–4 (see p. 390).

A large space-occupying process, or a large disc protrusion which cannot and may not be manipulated, is very likely and a myelogram or magnetic resonance imaging (MRI) should be ordered immediately.

Muscle spasm

If one of the passive movements is stopped by an involuntary muscular contraction, a serious disorder should be suspected.

Local paravertebral mass

A local paravertebral mass may be caused by extraspinal invasion of a tumour.⁵
References