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FCP Case Study: Thoracic Spine Pain in 19YOM

Presenting Problem

19-year-old male presenting with a 1-month history of right-sided thoracolumbar pain. No trauma or MOI.

Aggravated by prolonged sitting or bending and eased with stretches/movement and naproxen. At this time, the patient presented with no other red flags or neurological symptoms. Due to the mechanical nature of the pain, a home exercise programme was advised to assist with symptoms for the next 4 to 6 weeks and to return for review if no improvements were made or return sooner if symptoms worsen.

2 days later, the patient returned for a review of the pain as he had felt it worsen. There were no other new symptoms or changes in presentation at this point. Due to the patient returning and struggling to self-manage, a referral to physiotherapy to provide further guidance and support was made. The patient was safety netted and advised to come back for a review if any concerns or symptoms occurred prior to this review.

3 days after this review, the patient then returned. He reported having attended A+E the previous day due to bilateral leg symptoms and the feeling of weakness. The patient reported he was examined and was advised that they were not concerned and to return to their GP for follow-up. No imaging was undertaken at this point. On observation, the patient had developed an antalgic gait when walking; it was unclear if it was compensatory due to pain or weakness. He also reported bilateral paraesthesia posteriorly into both thighs. He denied any SA, bladder, or bowel dysfunction, genital dysfunction, as well as any systemic signs such as fever, fatigue, or malaise.

Neurological assessment revealed weakness of right knee flexion, but all else was equal although pain reproducing. Sensation was equal left and right with patella, hamstring, and Achilles reflexes also being bilaterally equal.

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Due to the onset of new symptoms and antalgic gait, I decided to make an urgent referral to the MSK service with the view to organising an MRI of the spine to rule out any spinal compression. The patient was appropriately safety netted with regards to CES symptoms/worsening weakness or neurology. If they occur or any current symptoms worsen prior to this, attend A+E immediately.

The patient attended A+E 1 day after my consultation, and an MRI was subsequently completed that day.

The results were as follows:

- MRI Spine whole with contrast:
  - Cervical and lumbar spine are within normal limits.
  - Altered signal intensity of T9 vertebral body with rim-enhancing anterior epidural and right paravertebral collections noted.
  - Significant spinal cord stenosis and nerve root compression are noted at this level.
  - Rest of the thoracic vertebrae are normal.
- Conclusion:
  - Osteomyelitis of T9 vertebral body with paravertebral and epidural collections.
  - Significant cord compression at T9.
- Recommendation:
  - Urgent neurosurgical referral.

The patient had been admitted to hospital and was treated with IV antibiotics. He was therefore discharged from the MSK service as he was under inpatient care for the management of osteomyelitis.

Differential Diagnoses & Clinical Reasoning

On initial assessment, given a lack of neurology, systemic signs, and the presence of clear aggravating and easing factors, symptoms appeared mechanical in nature.

Upon the second review, with the current pain symptoms worsening after advising an exercise programme, a referral to Physiotherapy was made to assist with his self-management and thought it would assist with his return to sport and the gym.

On the third review, however, a spinal nerve root compression was hypothesised due to the progression of reported weakness/neurological symptoms and altered gait. This being said, there was less suspicion of myelitis or discitis due to the lack of systemic features such as fever, sweats, high temperatures, or night pain.

Although formal neurological examination did not elicit results that were too concerning, due to the progression of symptoms an onward referral and appropriate imaging were necessary to assist with onward management and diagnosis.

Summary

Not all infections or inflammation necessarily presents with fevers or other systemic features, so it is important to put these symptoms in perspective with other features

This case demonstrates the importance of safety netting patients appropriately as well as advising on how to go about seeking reviews, their urgency and recognising if any symptoms change or worsen.

It is also vital to reassess patients on their return and adapt management plans accordingly to not miss any serious pathology as well as ensure the patient has the care they need.