Reminder of important clinical lesson

Acute lower back pain mapped by dermatomal scarification in urban Malawi

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Summary

Lower back pain is a problem that affects many and generates an economic burden on the National Health Service. In modern days, although it is tempting to rely on specialist imaging for the initial investigation of back pain, it is often unnecessary. Comprehensive clinical examination is immediately available and should detect neurological impairments where they exist. A 32-year-old man from Malawi presented to clinic with lower back pain radiating to the right leg. Inspection revealed traditional scarification marks along the classical path of lumbar nerve root, which coincided with his L5 dermatomal pain. The distribution of his 'Mphini' along the typical path of lumbar nerve was identical to his myelography. This report strongly illustrates that in the Western medical setting, accurate history and examination would have allowed correct interpretation of these symptoms and correctly indicated the need for myelography.

BACKGROUND

Lower back pain is a problem that affects around 40% of the UK population each year.¹ It confers a tremendous economic burden on the country: in lost productivity, disability and sickness benefits. It has been estimated that lower back pain cost the National Health Service approximately £480 million annually.² A recent Swedish study revealed that the prevalence of lower back pain in the population was 3.8% (women=4.3%, men=3.3%) and increased with age. Lower back pain had been recorded in 17.1% of all patients (women=16.5%, men=18.0%) who had been diagnosed with any musculoskeletal condition.³ Review of the current literature highlights serious controversies regarding the efficiency of clinical examination versus specialists imaging for patients with acute lower back pain.

The specific anatomic cause of back pain is often impossible to define, and only a small percentage of patients have an identifiable underlying cause. In most cases, acute lower back pain is a benign, self-limiting condition such as back strain and osteoarthritis. Less than 2% of patients have disc herniation and even fewer present as a symptom of serious pathology such as infection, cord compression and neoplasm.⁴ The clinical challenge is discriminating between the vast majority of patients with simple back pain and the small minority in whom it is a manifestation of a more serious underlying cause.⁵ In the setting of lower back pain secondary to spinal disc disorders, clinicians must always be aware of 'red flag' warning signs. In cauda equina syndrome, red flag symptoms such as perianal/perineal sensory loss, laxity of anal sphincter and progressive neurological deficit in lower limbs may merit urgent investigations or even emergency admission. While in the 21st century, it is tempting to rely on specialist imaging to make this judgement, it is often unnecessary. Comprehensive clinical examination is immediately available and should detect neurological impairments where they exist.

We describe a case of acute lower back pain with dermatomal radiation. Unusually, this was diagnosed and marked with the procedure of scarification by an African traditional healer, untrained in conventional medicine or anatomy.

CASE PRESENTATION

A 32-year-old man from Malawi presented to clinic with troublesome lower back pain radiating to the right leg. Enquiry revealed that the back pain had first occurred 9 months previously when lifting a heavy sack of vegetables. At that time, the pain was severe, sharp and prevented him from normal activities of daily living. Radiation was unilateral, only to the right leg. He denied suffering any subjective muscular weakness on recall. He also denied any disturbance of sphincter function. After a period of rest, the severity of his symptoms decreased significantly. He was able to gradually get back to work. However, he continued to have intermittent lower back pain with radiation to the lateral aspect of his right leg. Along with his beliefs, he sought treatment from a traditional healer. They embarked on a treatment process of scarification, also known as Mphini. This involves the village healer making small and superficial incisions in affected areas, in an effort to relieve pain.

OUTCOME AND FOLLOW-UP

In this case, it was notable that the incised skin correlated closely with the L5 dermatome (figure 1). The distribution of his 'Mphini' along the classical path of lumbar nerve root pain meant that our subsequent, corroborative myelogram was performed to confirm the pattern of distribution (figure 2). The gentleman and his healer had identified the site of the lesion precisely. Imaging should not be applied blindly in the absence of comprehensive clinical evaluation (history and examination).

Figure 1 The distribution of patients Mphini.

DISCUSSION

Scarification or 'Mphini', as a form of traditional medical practice, is widely performed in many African cultures. It is the practice of incising the skin with a sharp instrument on painful parts of the body in an effort to relieve acute and chronic pain. Although infection risks are significant in areas with a high HIV prevalence, many patients are satisfied with scarification as a method of analgesia.

We report the case of a patient suffering from lower back pain and sciatica who had the dermatomal level of radiation accurately mapped out with such scarification marks. To our knowledge, this is the only report of a patient with such markings matching exactly as the findings of the myelogram.

Acute lower back pain is one of the most common complaints in primary and secondary healthcare. It often leads to extensive specialist imaging to discover its underlying cause. The most common forms of spinal imaging

Figure 2 Myelogram mapping the L5 defect with contrast.

are plain radiography, CT, MRI and bone scanning. Plain radiography is the most frequently used spinal imaging test because of its low cost and ready availability. However, for patients with systemic disease and symptoms of lower back pain, MRI provides the greatest sensitivity and specificity and does not irradiate the patient. In circumstances where visualisation of bony anatomy is critical, CT is preferable.

Specialised imaging techniques carried out in secondary healthcare include electromyographic explorations, thermography, myelography⁶ and discography.⁷ Controversy surrounding the optimal imaging tests for various clinical situations persists.

Guidelines exist from the ARCPR (US Agency for Health Care Policy and Research),⁸ and more recently the review article of Jarvik and Deyo⁵ advocate a diagnostic strategy for clinicians on acute lower back pain. These guidelines supported by an expanding evidence base report that plain radiography is not appropriate for all patients with acute lower back pain. Potential disadvantages include a low yield of constructive results, misleading incidental findings, subjecting patients to unnecessary radiation and interpretation discrepancies.

The guidelines state that routine testing and imaging studies are not recommended during the first 4 weeks of lower back symptoms. For patients younger than 50 years of age who do not show signs or symptoms of systemic disease, imaging tests are usually inappropriate. For persons over 50 years of age or those showing signs or symptoms of systemic disease, plain radiography and laboratory tests, such as erythrocyte sedimentation rate,

full blood counts and assessment of renal function can be used to rule out systemic diseases (neoplasm and infection).

Learning points

- We report a patient with acute lower back pain and sciatica who had the dermatomal level of radiation accurately mapped out with scarification marks.
- The distribution of his 'Mphini' along the classical path of lumbar nerve is identical to his subsequent myelography result.
- In the setting of conventional Western medicine, accurate history and examination would have allowed correct interpretation of these symptoms and correctly indicates the need for myelography.

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