Infective lumbar discitis in a sickler - An occult ‘typhoid’ spine?

*T. O. Alonge¹, S. O. Ogulade¹, A. B. Omololu¹ and M. Obajimi²

¹Department of Surgery, College of Medicine, University of Ibadan, Ibadan, Nigeria
²Department of Radiology, College of Medicine, University of Ibadan, Nigeria.

Summary

Pyogenic infection of the intervertebral disc (discitis) is a rare infection and the diagnosis often depends on a high index of suspicion. The cases of infective discitis described in the modern literature are similar to, if not identical with what was described as ‘typhoid spine’⁴. Salmonella infection of the musculoskeletal system on the other hand is more common in patients with sickle cell anaemia. This case report highlights the bizarre presentation of infective lumbar discitis in a sickler (HbSS) and calls attention to the need for a thorough evaluation of low back pain in these patients.

Key words: Sickler, Discitis, Scotch cast lumbar jacket

Introduction

The intervertebral disc which forms approximately one quarter of the entire length of the movable part of the spinal column¹ is not a passive vestigial remnant but an active structure which has been likened to a rudimentary diaphragm joint possessing a cavity filled with villi and surrounded by a fibrocartilaginous capsule.² It (the intervertebral disc) is generally regarded as an avascular tissue, but Ross Smith in 1931³ demonstrated the presence of nutritive or vascular channels in the intervertebral discs of cadavers. He showed that these channels emanate from the marrow of the vertebral bodies, pierce the cartilaginous plates and run between the fibres of the annulus. This finding has been confirmed by Coventry et al⁴ who have demonstrated blood cells in these vascular channels which was found in the lumina of the discs. Furthermore, they (Coventry et al) have shown that these vascular channels were only found in the intervertebral discs harvested from cadavers of patients that were in the first three decades of life.

The presence of blood vessels in the intervertebral discs therefore makes it imperative that bacteria can spread via haematogenous route and be lodged in the discs giving rise to infection and subsequent destruction of the disc by exotoxins released by the offending bacteria.³ This type of pyogenic infective discitis is tagged primary whereas the secondary variety can occur following discectomies.⁴

This case report of infective lumbar discitis in a sickler demonstrates the bizarre presentation of this disease entity and physicians involved in the management of patients with sickle cell anaemia may want to evaluate acute low back pain in these patients further with the risk of an infective discitis in view.

Case study

AB was a 20-year old female university undergraduate, a

⁴Correspondence

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267
of the vertebral body and infective discitis) as osteomyelitis of the vertebrae bodies.\(^3\) However, plain radiographs of the early stages of infective discitis is often characterised by diminished transparency of the affected intervertebral discs, and sometimes narrowing of the disc space due to initial thickening but with sparing of the vertebral bodies at this stage.\(^3\) Erosion of the adjoining vertebral plates is only present in the later stage (Stage III) of the disease (Figures 2a and 2b) and approximately 50% of cases of infective discitis do not progress beyond this stage.\(^3\)

Pyogenic infective discitis has unusual presentations one of which is spasm of the lumbar or ilio-psoas muscles without any neurologic deficits. Ghormley et al in 1940,\(^4\) reviewed 20 cases at the Mayo clinic and observed that a pre-existing infection is often if not always necessary and they reckon that infective discitis is a metastatic infection.

Salmonella infection is also common in patients with sickle cell anaemia\(^9\) and infective discitis as described in recent literature is almost if not exactly identical with the previously described typhoid spine\(^6\) and it is possible that this patient may have had salmonella infection of the two discs on the basis of the clinical presentation and her genotype.

The absence of fever in the early stages of the disease in this patient is not unusual\(^9\) and although *staphylococcus aureus* is the microorganism commonly isolated from biopsies (and blood cultures), we do not have an image intensifier that would have enabled us to take a biopsy of these infected discs. Radical debridement (under antibiotic cover) is usually advocated in the management of these patients,\(^4\) however, in the prevailing circumstances in our environment, conservative management was carried out with satisfactory result.

The University College Hospital, Ibadan, has a reputable day care unit that caters for haematological emergencies. Although anaemia is the most common emergency seen in this unit, patients with sickle cell anaemia presenting with back pain may not be fully investigated and this case highlights the need to have a high index of suspicion in sicklers who present with acute low back pain.

**References**