Imaging Features of Tuberculous Spondylitis

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Approximately 1 – 2% of total tuberculous cases are attributable to Tuberculosis of the spine.

According to WHO, more than 8 million new cases of TB occur each year. Currently 19 – 43.5% world’s population is infected with M. tuberculosis.

Developing countries including India, China, Pakistan, Philippines, Thailand, Indonesia, Bangladesh and the Democratic Republic of Congo account for nearly 75% of all cases of TB.
The purpose of study is to determine the imaging features of tuberculous spondylitis.
INTRODUCTION

Tuberculous spondylitis is defined as an infection by Mycobacterium tuberculosis of one or more components of the spine: vertebra, intervertebral disc, paraspinal soft tissue or extradural space.

The infection begins in the anterior part of vertebral body, adjacent to the endplate.

With disease progression intervertebral disc becomes involved with subsequent loss in disc height.
INTRODUCTION

• Disease progression leads to vertebral collapse and anterior wedging leading to angulation and characteristic gibbous deformity.
METHODOLOGY

MRI of 51 patients with tuberculous infection of the spine at the Aga Khan University Hospital for a period of 2 ½ years from January 21, 2002 till June 1, 2004 were retrospectively reviewed by two expert radiologists.

After review of the medical records by another author 11 (21.5%) of the cases were excluded because M. tuberculosis could not be identified and the features were attributed to other pyogenic organisms.
METHODOLOGY

The reviewer while examining the medical records looked for the absence or presence of characteristic features of tuberculous spondylitis such as

- Osseous involvement of the vertebrae
- Site of lesion
- Number of vertebrae involved
- Involvement of anterior or posterior elements or endplates
- Gibbous deformity
- Epidural or paraspinal abscess and
- Involvement of the intervertebral disc
RESULTS

- There were 10 (25%) cases that had formation of gibbous deformity.

- 6 (15%) of the cases had evidence of epidural abscess where as 9 (22.5%) had evidence of paraspinal abscess.

- There was resolution of tuberculosis on anti-tuberculous therapy in 9 (22.5%) cases.
CONCLUSION

• There was a high incidence of gibbous deformity observed.
• The paraspinal abscess was more common than epidural abscess.
• The percentage of osteomyelitis was significantly higher.
• The site of lesion mainly centered in the mid and lower lumbar vertebrae.
LESIONS INVOLVING DORSAL SPINE
LESIONS OF THE LUMBAR SPINE
UNUSUAL SITES OF INVOLVEMENT
SCAN ONE MONTH LATER
SURGICAL TREATMENT
1. The Encyclopaedia of Medical Imaging Volume VII. (http://www.amershamhealth.com/medcyclopaedia/medial/volume%20vii/tuberculous%20spondylitis.asp.)

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3. Emedicine (http://www.emedicine.com/PED/topic2321.htm)