

Imaging Features of Tuberculous Spondylitis

By

Dr. Humera Ahsan

Department of Radiology

Aga Khan University

Hospital

BACKGROUND

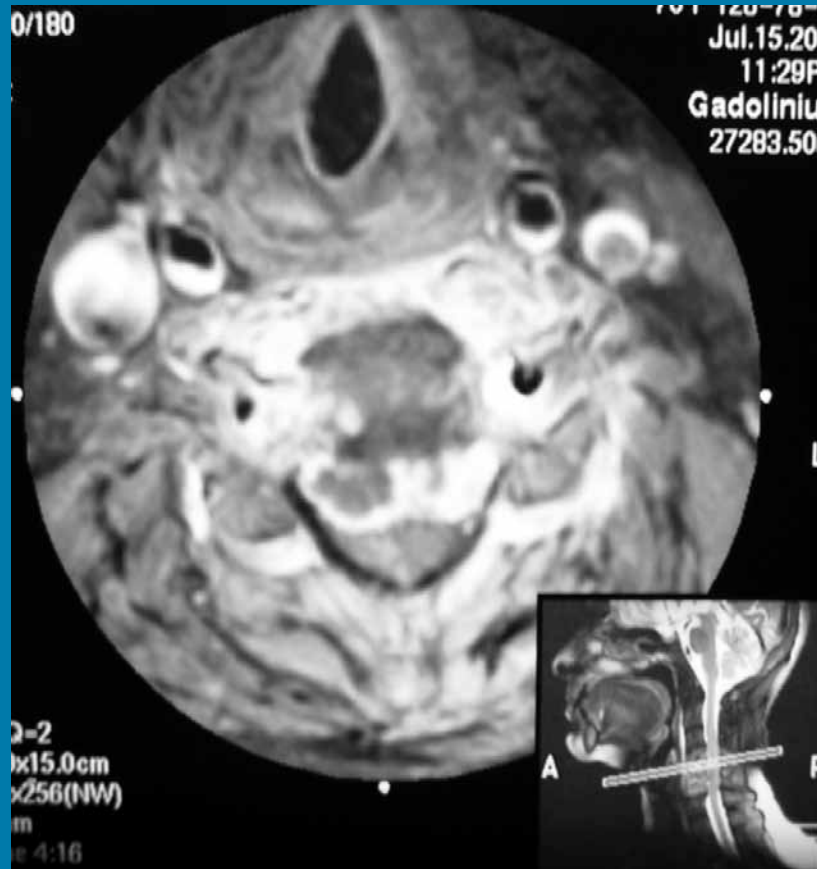
- Approximately 1 – 2% of total tuberculous cases are attributable to Tuberculosis of the spine.
- According to WHO, more than 8 million new cases of TB occur each year. Currently 19 – 43.5% world's population is infected with *M. tuberculosis*.
- Developing countries including India, China, Pakistan, Philippines, Thailand, Indonesia, Bangladesh and the Democratic Republic of Congo account for nearly 75% of all cases of TB.











OBJECTIVE

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.

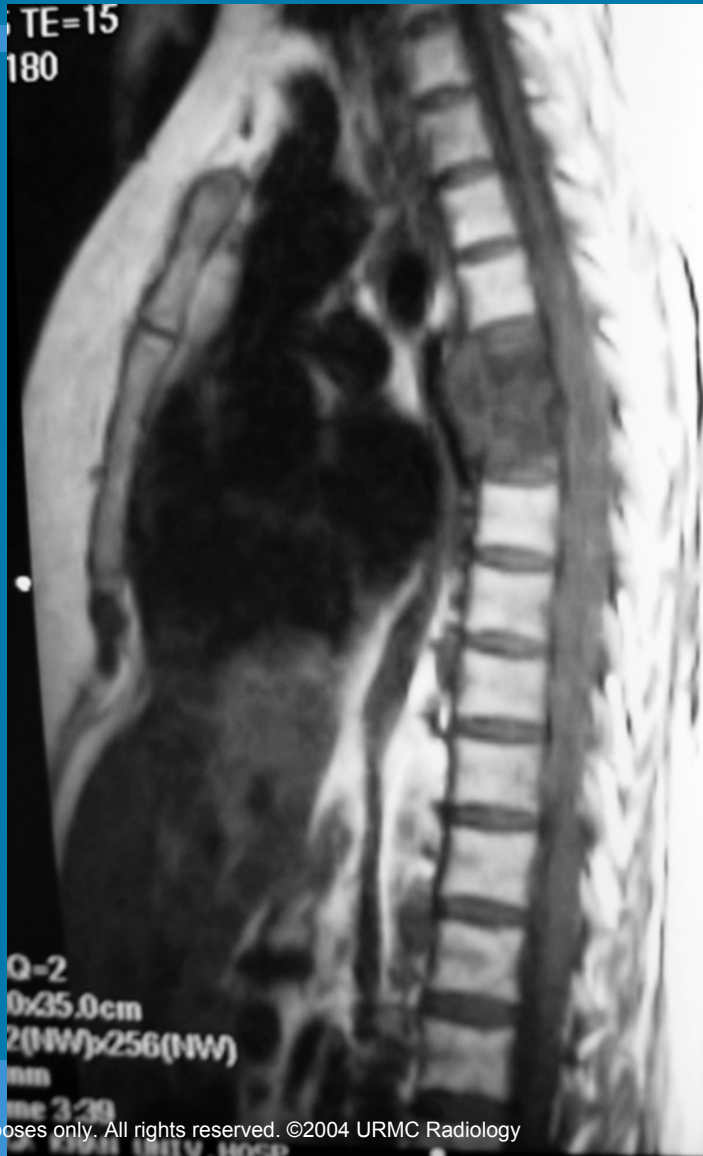
METHODOLOGY

- The reviewer while examining the medical records looked for the absence or presence of characteristic features of tuberculous spondylitis such as
 - a. Osseous involvement of the vertebrae
 - b. Site of lesion
 - c. Number of vertebrae involved
 - d. Involvement of anterior or posterior elements or endplates
 - e. Gibbous deformity
 - f. Epidural or paraspinal abscess and
 - g. Involvement of the interverteberal disc

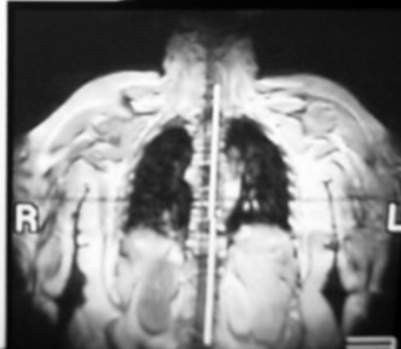


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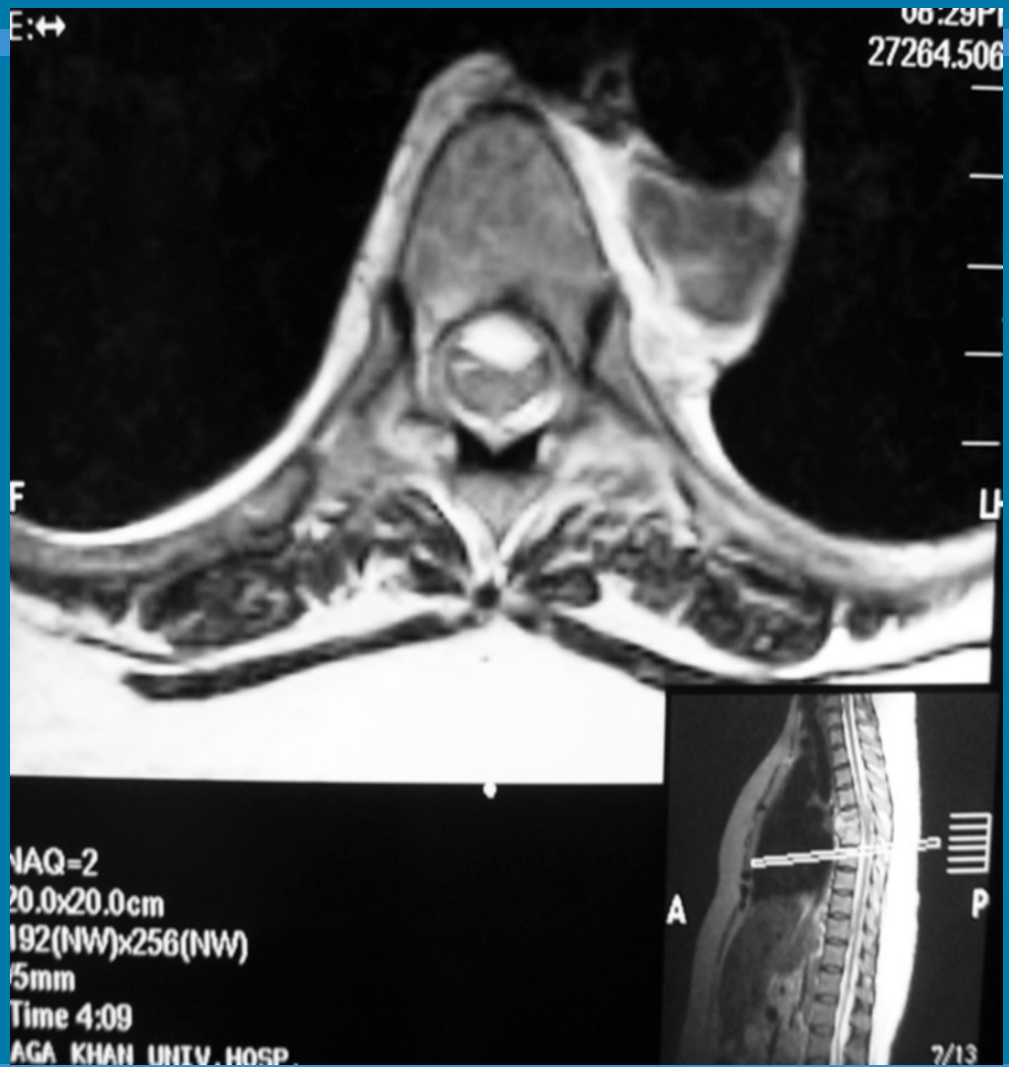


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me 3.28

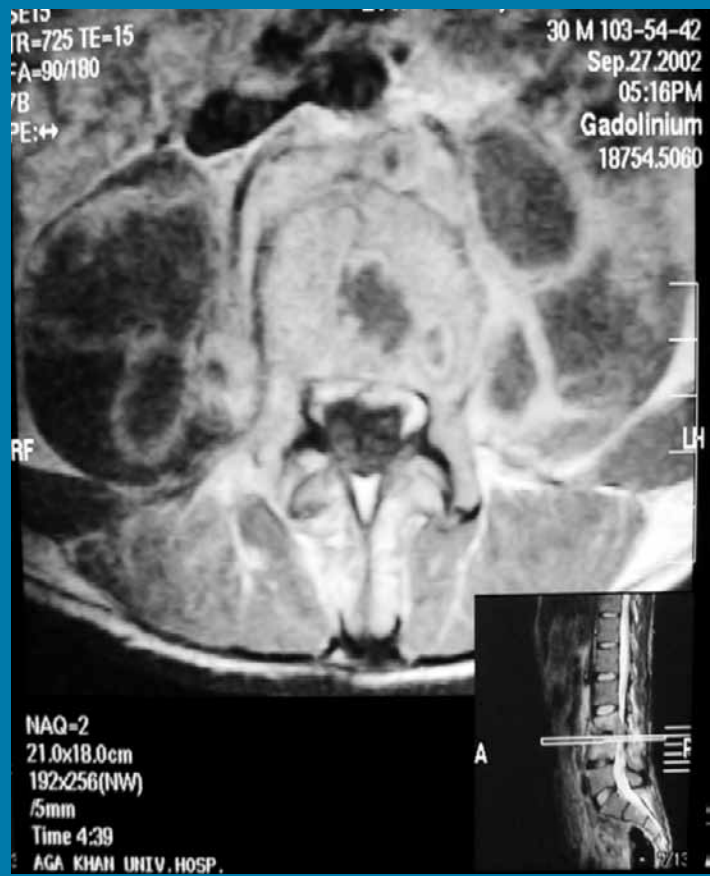






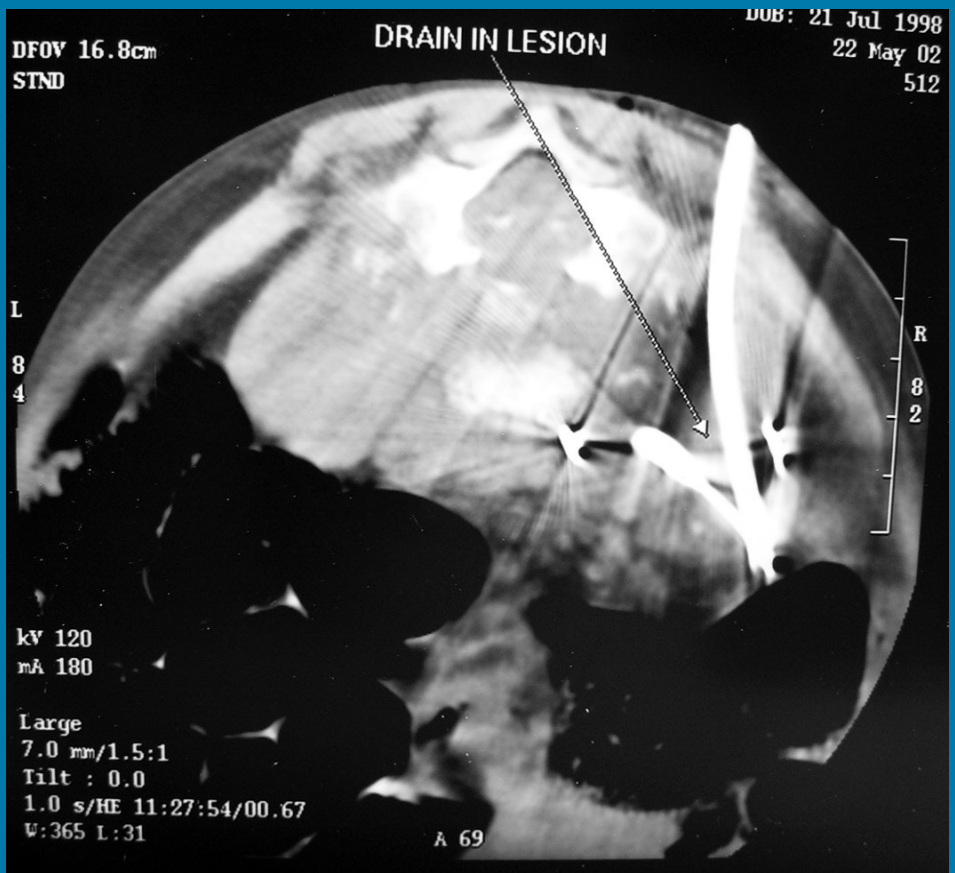




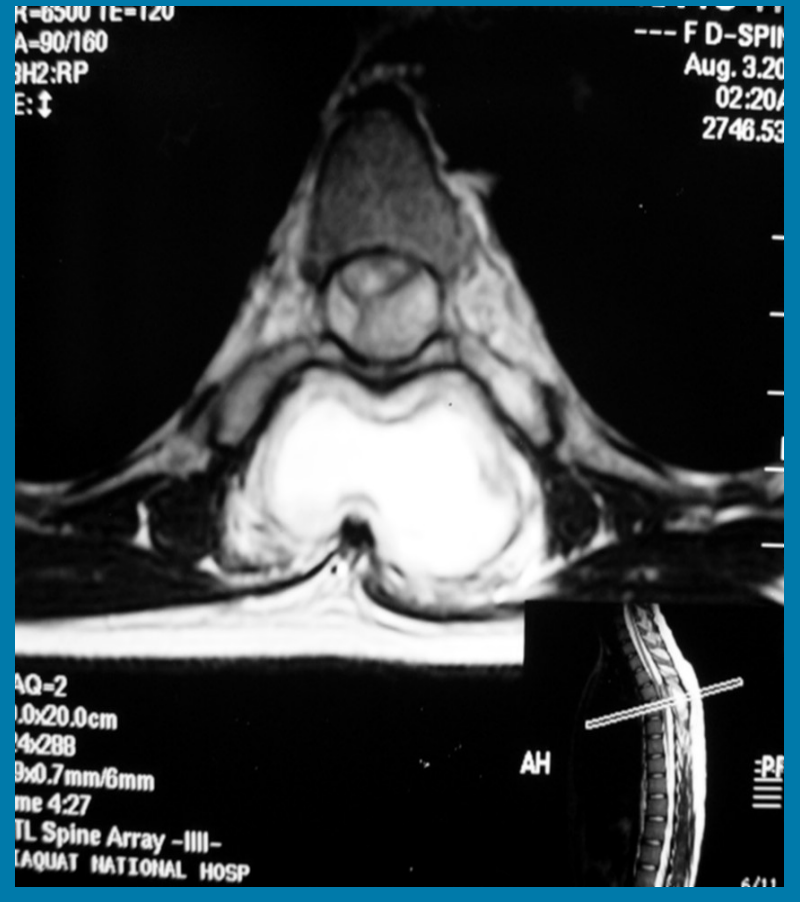












RESULTS

- 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.

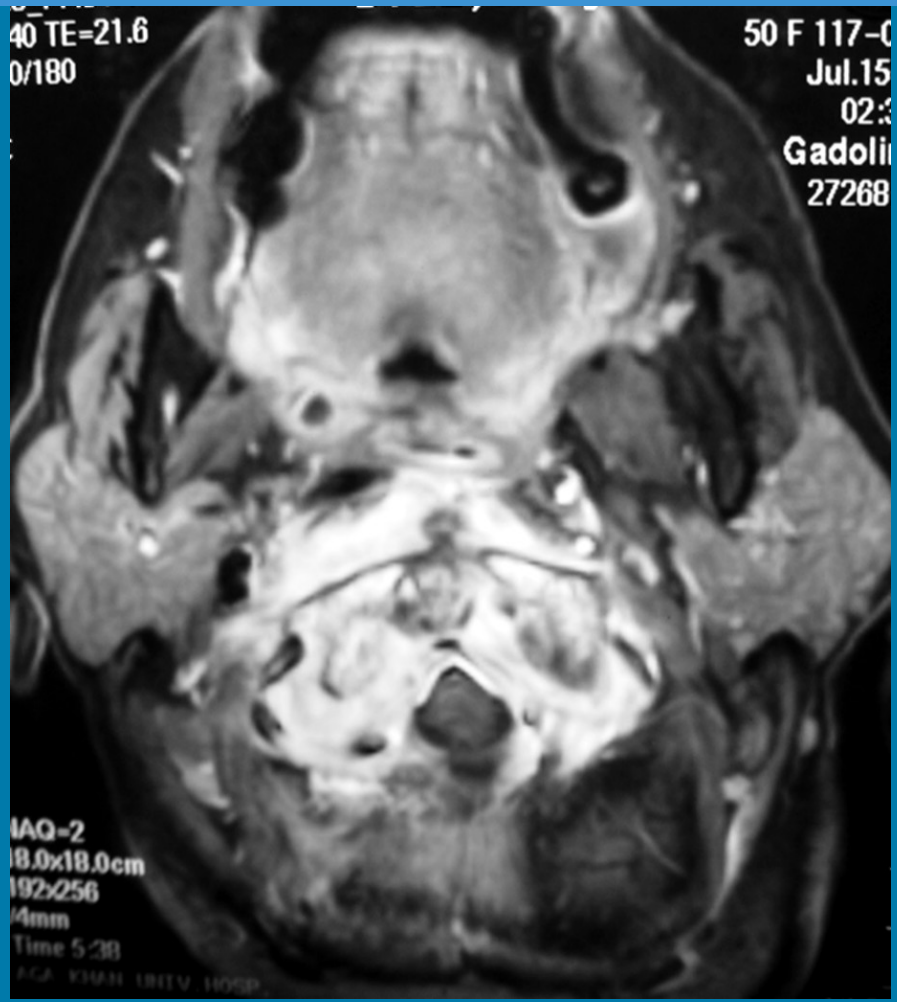
CONCLUSION

- 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 OF CERVICAL SPIN





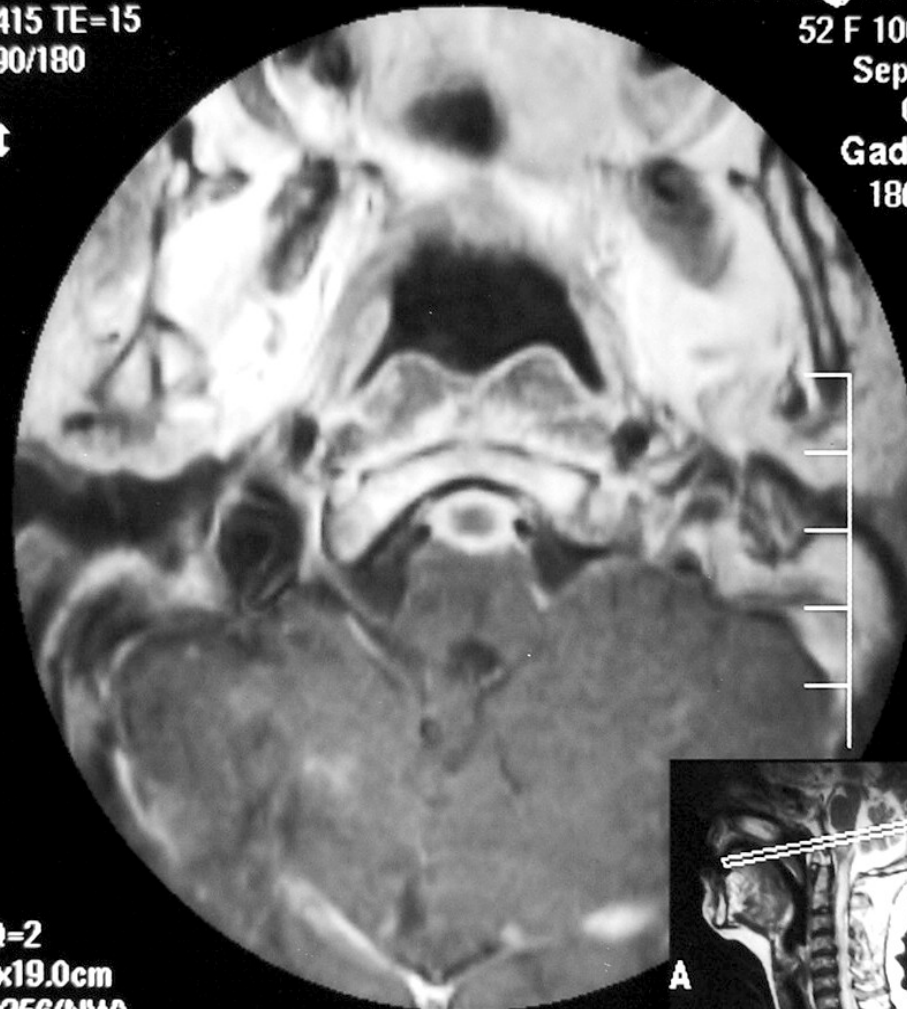




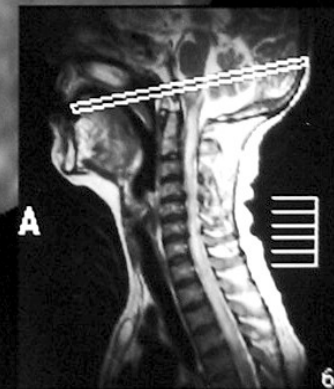
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↑↓

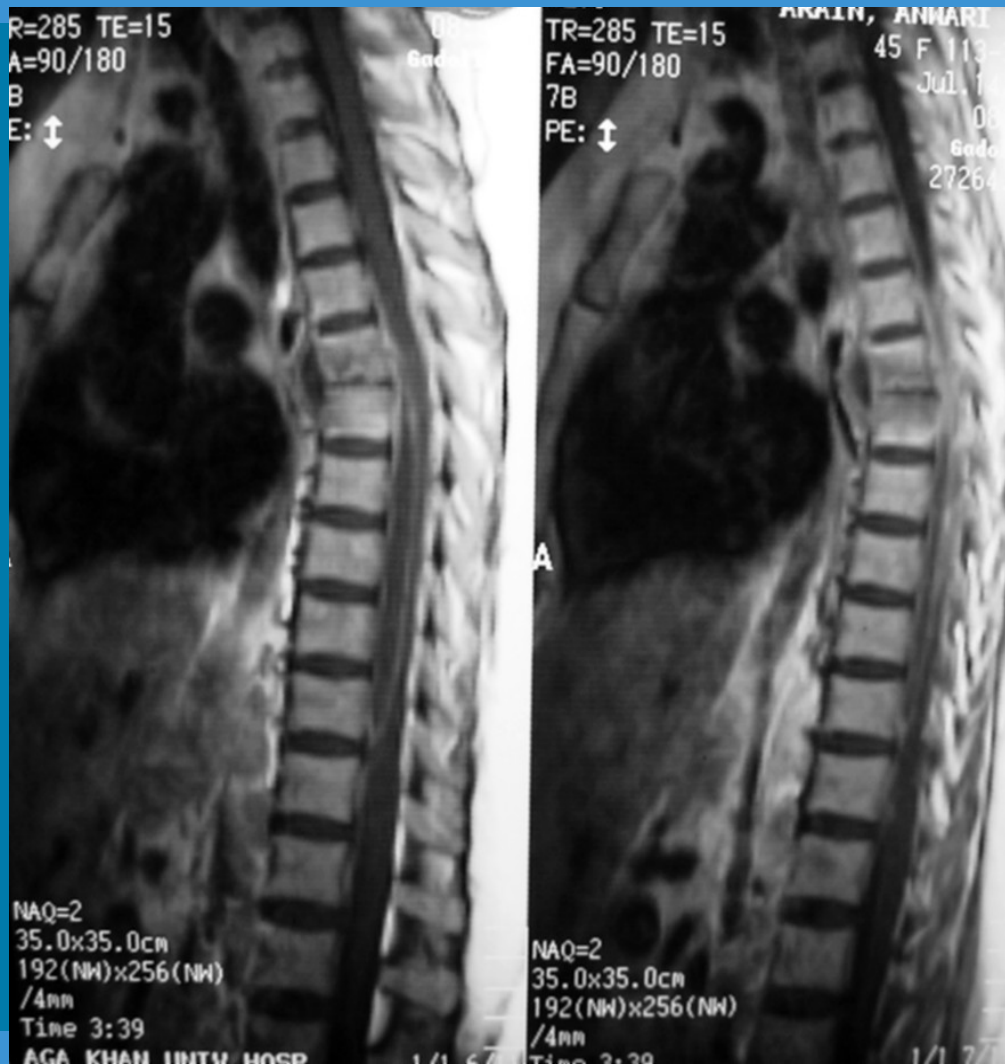
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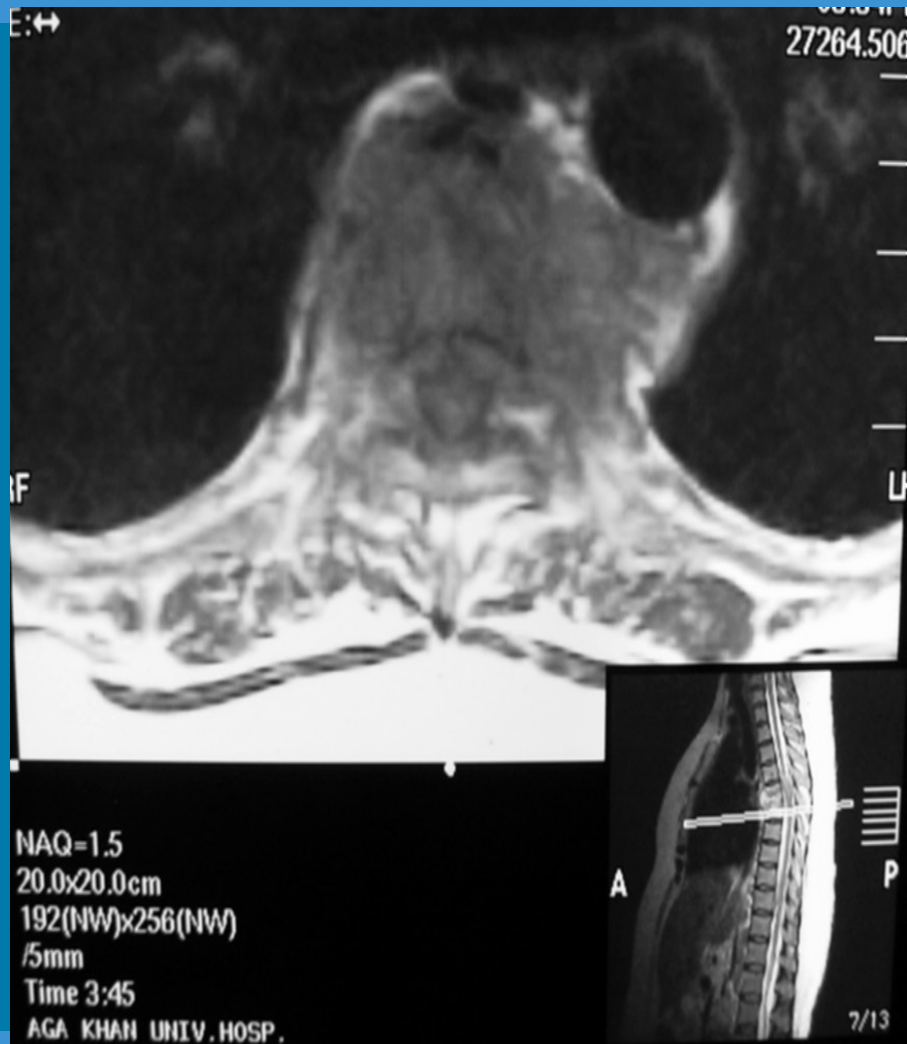


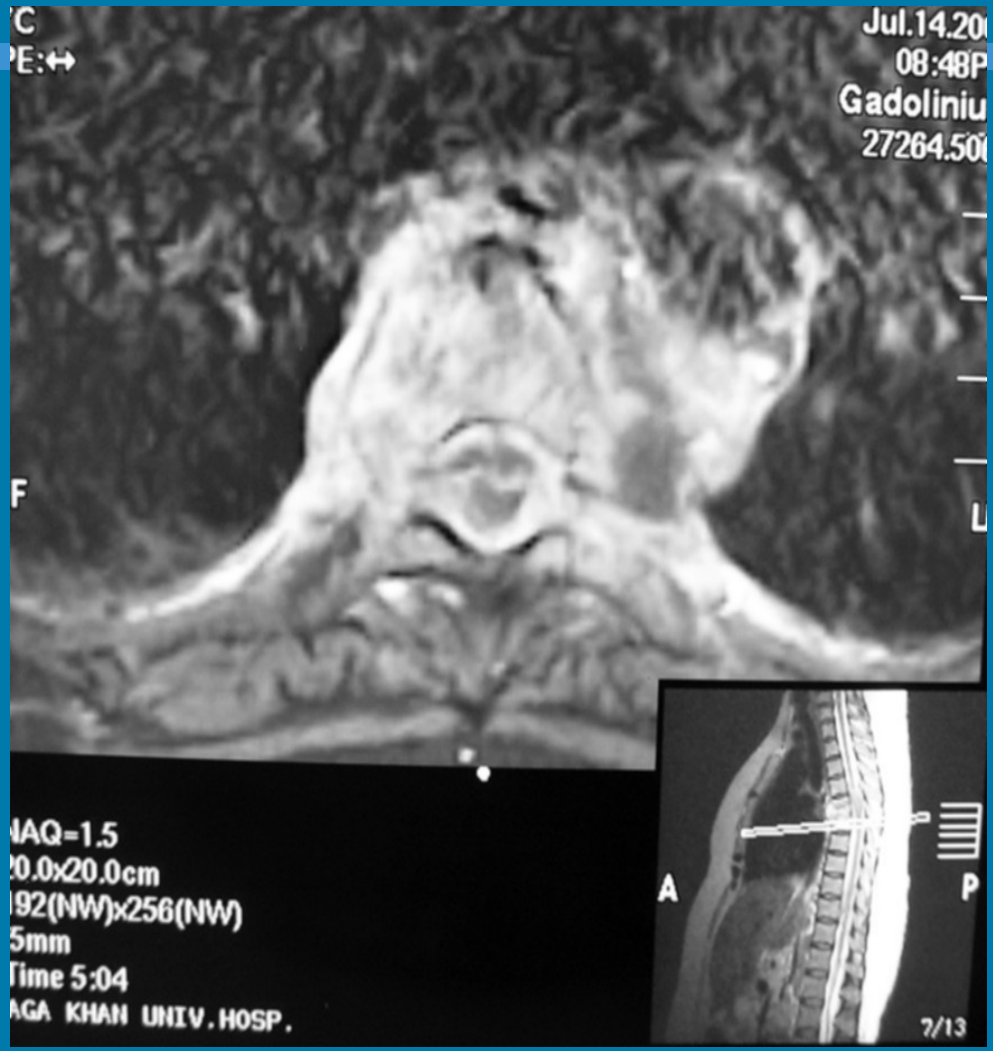
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2x256(NW)
mm
ne 5:20
A KHAN UNIV. HOSP.



LESIONS INVOLVING DORSAL SPINE

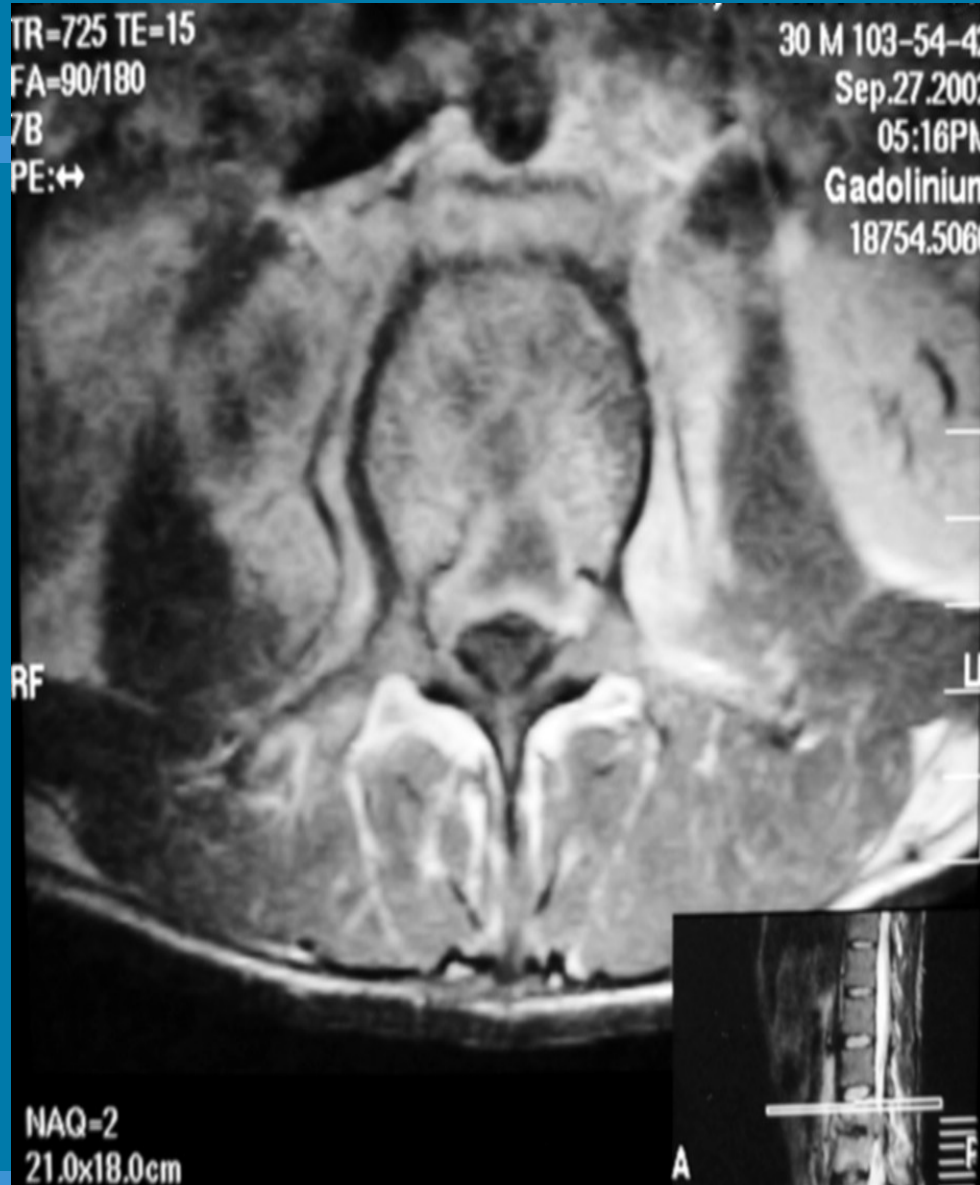






LESIONS OF THE LUMBAR SPINE





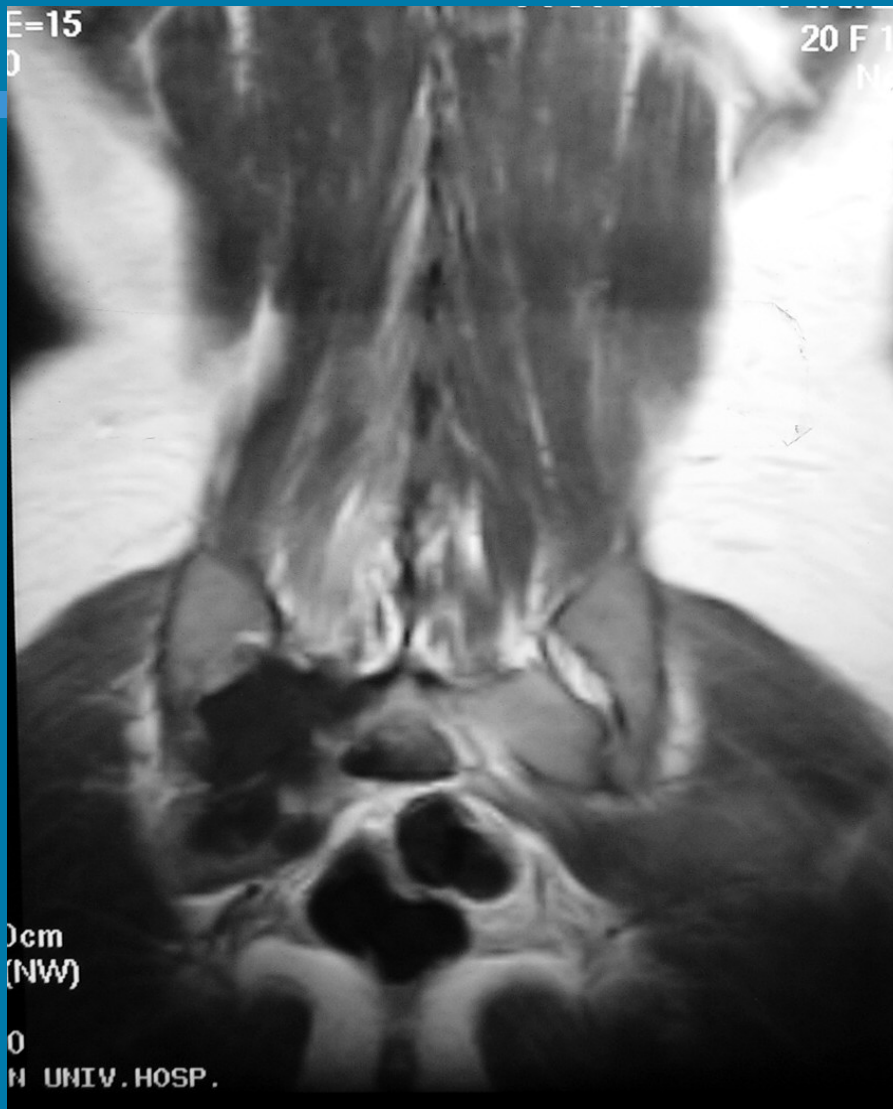


PEDIATRIC CASE





UNUSUAL SITES OF INVOLVEMENT





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92(NW)x256(NW)
7mm
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GA KHAN UNIV. HOSP.



00 TE=18
/160 TI=140

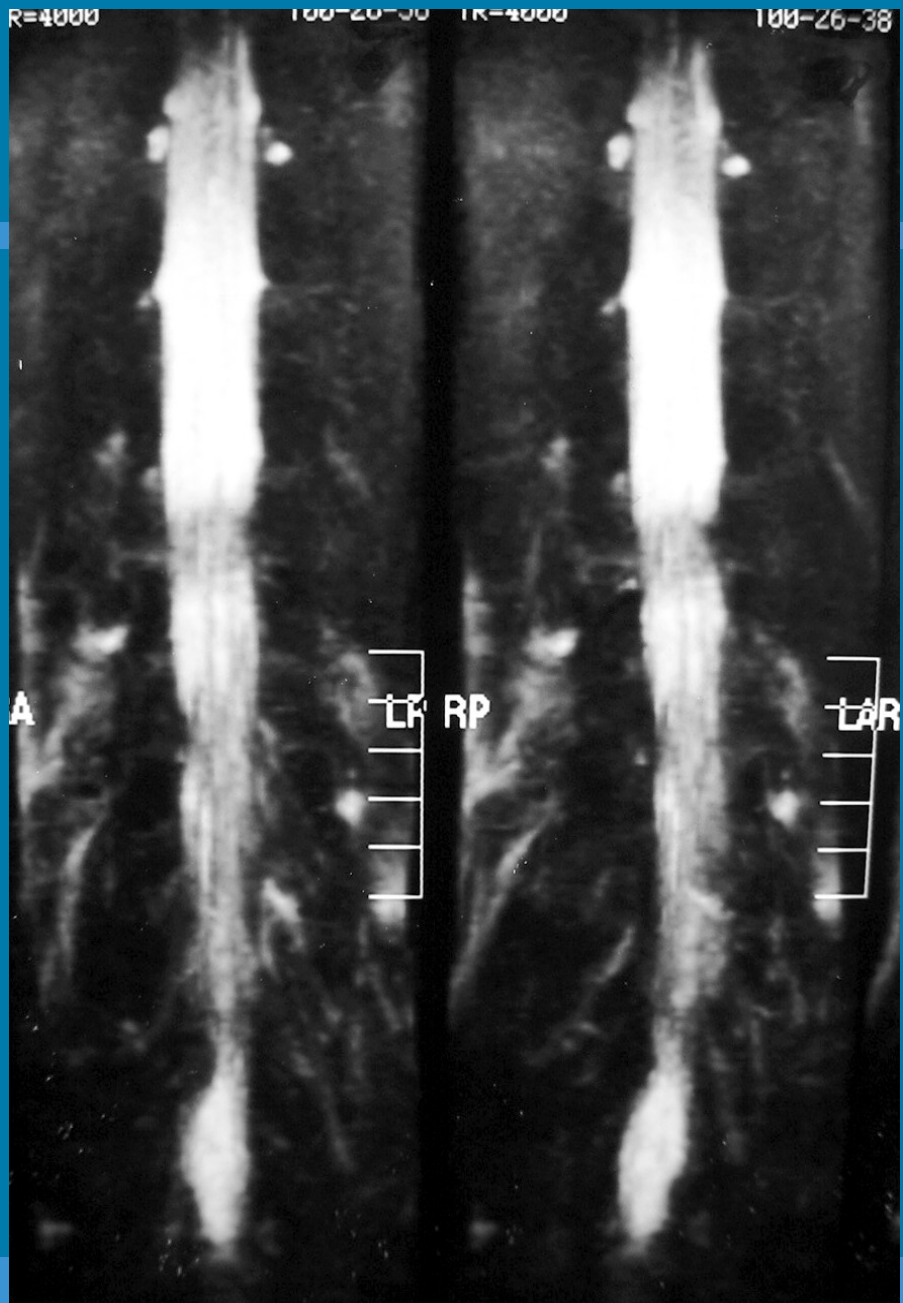
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Nov.18.
07:3
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0=2
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256(NW)
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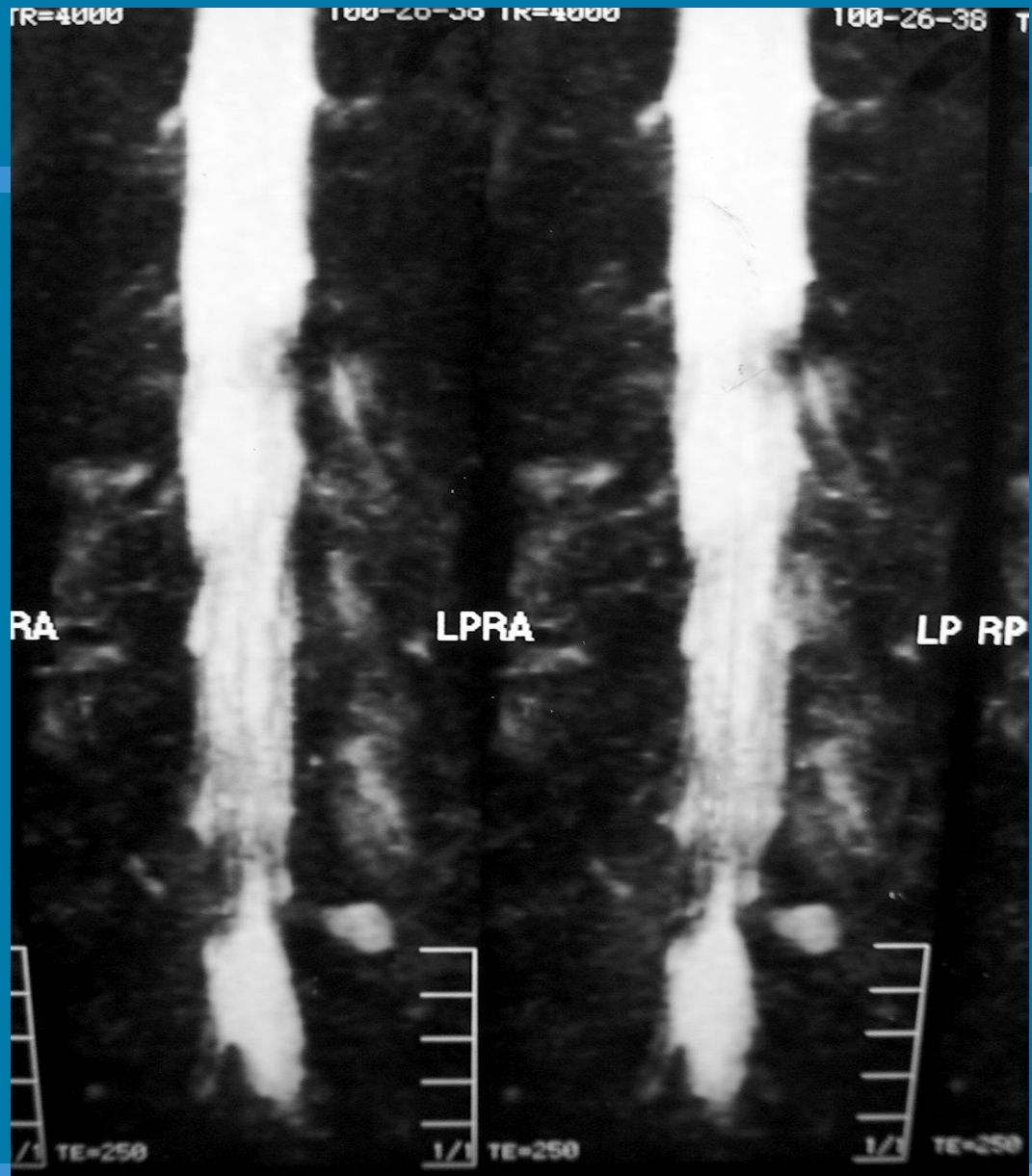
EARLY DISEASE





SCAN ONE MONTH LATER





MULTICENTRIC INVOLVEMENT

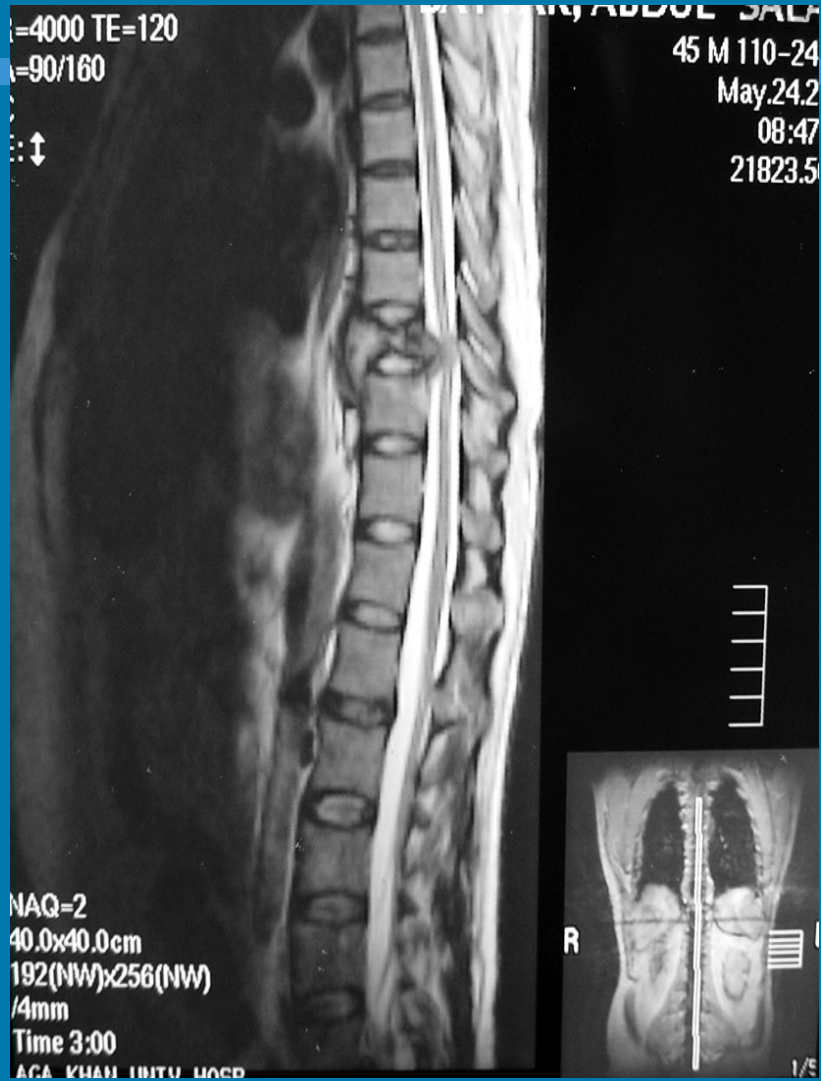




SURGICAL TREATMENT



SPARED INTERVERTEBRAL DISC





REFERENCE

1. The Encyclopaedia of Medical Imaging Volume VII. (
<http://www.amershamhealth.com/medcyclopaedia/medial/volume%20vii/tuberculous%20spondylitis.asp>.)
2. Emedicine (
<http://www.emedicine.com/med/topic1902.htm>)
3. Emedicine (
<http://www.emedicine.com/PED/topic2321.htm>)