

Andersson lesion in ankylosing spondylitis

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DESCRIPTION

A 62-year-old man presented with low back pain for 4 months. He had no history of trauma or fever. He had no known comorbidities. On examination, he was found to have tenderness over D10–D12 region. Neurological status was found to be normal. HLA-B27 was found to be positive, while rheumatoid factor was negative. Radiographs of the lumbosacral spine showed bilateral sacroiliitis, bamboo spine and syndesmophytes (figure 1A,B). Dorsal spine radiograph showed irregularities, and erosions of the end plates of D11–D12 vertebral bodies (figure 1C), which was suspected to an Andersson lesion. MRI of the spine showed signal intensity changes involving the D11–D12 intervertebral disc space and vertebral end plates. The lesion has the classical hemispherical shape, was hypointense on T1 weighted images (figure 2A), hyperintense on T2 weighted images (figure 2B) and short tau inversion recovery images (figure 2C). It also showed vertebral end plate erosions and reactive sclerosis (figure 2D) and sacroiliitis (figure 2E). The absence of any surrounding abscess also helps to rule out infective spondylodiscitis. These features confirmed the diagnosis of ankylosing spondylitis with Andersson lesion of D11–D12. Conservative treatment with non-steroidal anti-inflammatory drugs was attempted for 6 weeks; however, the patient had inadequate pain relief. The patient then underwent posterior spinal stabilisation and instrumented fusion of D9–L2 vertebra (figure 3A,B), supplemented by minimally invasive anterior discectomy, anterolateral

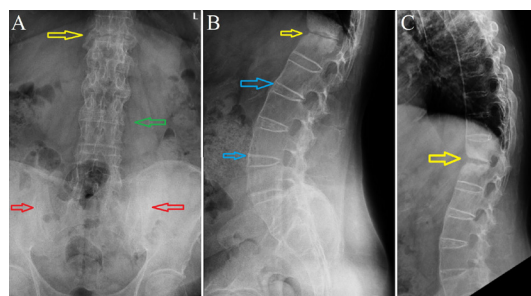


Figure 1 (A) Antero-posterior and (B) lateral radiograph of lumbosacral spine, (C) dorsal spine radiograph showing bilateral decreased SI joint space, and sclerosis around SI joints, suggestive of sacroiliitis (red arrows). Syndesmophytes are seen (blue arrows) as paravertebral ossifications, causing the spine to have diffuse syndesmophytic ankylosis and giving the bamboo spine appearance (green arrow). Irregularities, erosions and sclerosis of vertebral end plates of D11–D12 are noted (yellow arrow), which are suggestive of Andersson lesion. SI, sacroiliac.

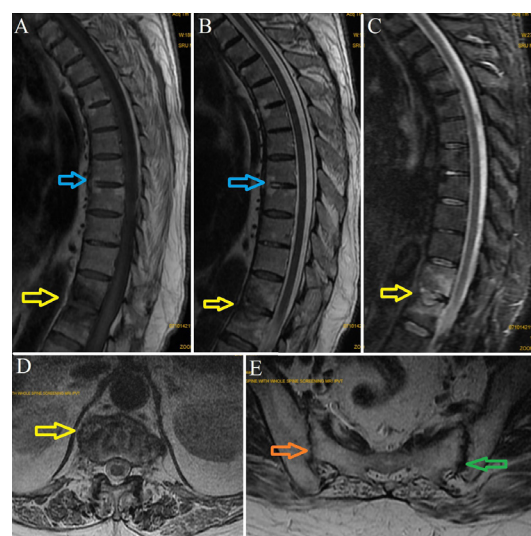


Figure 2 MRI showing classical features of Andersson lesion (yellow arrows) in D11–D12 of hemispherical shaped lesion, which is hypointense on (A) T1 weighted sequences, hyperintense on (B) T2 weighted sequences and (C) STIR sequences. Modic II changes (blue arrows) being hyperintense on T1 and T2 sequences are noted in D4, D5, D7 and D8 vertebra. (D) Axial section showing vertebral end plate erosions, irregularity and reactive sclerosis. (E) SI joints showing decreased joint space (orange arrow) and subchondral erosions (green arrow). STIR, short tau inversion recovery.

interbody fusion of D11–D12 with cage and bone grafting (figure 3C,D). We chose to stabilise such a long segment in view of involvement of the thoracolumbar transition zone, osteoporosis and the large forces acting as a result of the long lever arm created by fusion of vertebra in ankylosing spondylitis. The patient was followed-up for a period of 2 years and was found to have no progress of symptoms or recurrence of the Andersson lesion (figure 3E,F).

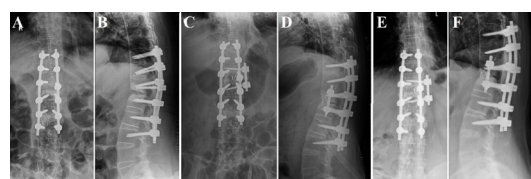


Figure 3 (A, B) Antero-posterior and lateral postoperative radiographs following posterior spinal stabilisation and instrumented fusion of D9–L2 vertebra, later followed by (C and D) minimally invasive anterior discectomy, anterolateral interbody fusion of D11–D12 with cage and bone grafting. (E and F) Follow-up radiographs 1 year following surgery, showing no recurrence of Andersson lesion.



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Images in...

Andersson lesion is a rare complication occurring in only approximately 1.5% individuals with ankylosing spondylitis.¹ It is characterised by vertebral or discovertebral lesions of the spine. The exact aetiology of the lesion, however, still remains unclear. It can be diagnosed based on radiographs, with MRI providing additional details in order to differentiate it from metastatic and infectious pathologies.² This aseptic discitis can cause pain, lead to the development of pseudoarthrosis or even kyphotic deformity.³ Surgical

decompression, stabilisation and fusion form the mainstay of the surgical management.⁴

Contributors SNP obtained the digital images of all investigations of the patient and was responsible for writing of the draft of the manuscript. KK was the chief operating spine surgeon and obtained the informed consent from the patient for this publication. VJ and SG performed analysis and highlighting of radiographs and MRI images, as well as reviewed the manuscript.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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Patient's perspective

My back pain has decreased significantly compared with before the surgery.

Learning points

- Andersson lesion is a rare aseptic discovertebral lesion occurring in individuals with ankylosing spondylitis.
- It should be differentiated from infective spondylodiscitis and metastatic disease by its classical appearance on radiographs and MRI.
- It often requires surgical management to alleviate pain, and prevent it leading to pseudoarthrosis or kyphosis.

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