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The "Dagger Sign": A classic sign in abdominal radiology

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Clinical image description

Ankylosing Spondylitis (AS) is one of the seronegative spondyloarthropathies, a group of inflammatory spine conditions that are characterized by similar clinical features but with variable immunological markers [1]. AS has been linked to the HLA-B27 subtype of MHC class I molecules, and most commonly presents in men in their 20s. This condition can cause a significant amount of pain, but treated with NSAIDs is often first line [2].

On frontal radiographs, "Dagger sign" is the radiodense line that can be seen in some cases of ankylosing spondylitis [3]. This is due to ossification of the interspinous or supraspinous ligament (Figure 2). The corresponding sign is so named because the ossification is linear and tapers to a sharp point like that of a dagger (Figure 1). The dagger sign classically occurs in the lumbar region of the spine.

The dagger sign tends to be a late finding in ankylosing spondylitis, and it is common to see other classic signs of ankylosing spondylitis in conjunction with it. The "bamboo" sign gives the spine a bamboo-like shape when syndesmophytes form on the annulus puplosis [4]. Romanus lesions are erosion of the corner of the annulus fibrosis near vertebral endplates, which may subsequently sclerose and give a "shiny corner" appearance.

Figure 1: Steel dagger with handle of brass and wood.

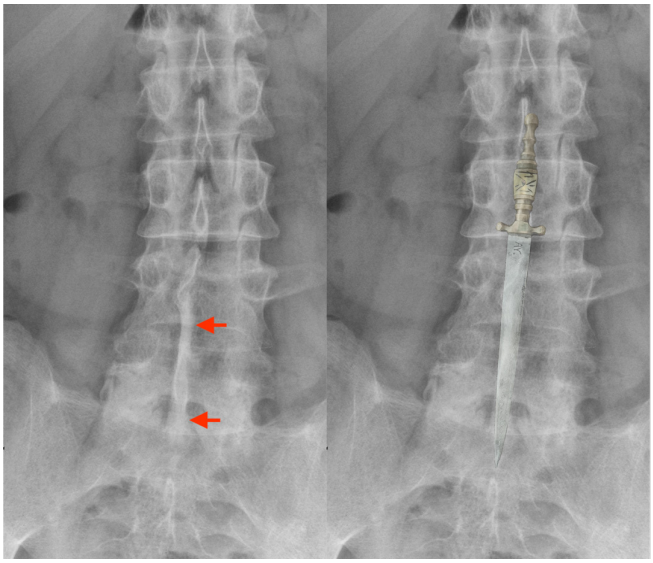

Figure 2: On the left, a frontal X-ray of the lower lumbar spine displays dagger sign (red arrows). On the right, a dagger is overlaid on the image to accentuate the finding.

Declarations

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