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## Infection of the Spine

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With increasing capability of imaging techniques, reported frequency of spondylitis / diskitis appears to be 2-4% of osteomyelitis. All age groups affected. The sites of involvement are lumbar, thoracic, sacral, cervical spine.

Organisms can reach the vertebra by 1) hematogenous spreading which is the most common route, 2) spread from nearby source of infection, 3) direct implantation, 4) post-operative infection that found in 1% of cases after simple discectomy and 6-8% after attempt fusion with hardware. Infection of disk and vertebral body may occur at non-surgical level.

Regarding age-related changes: children below 4 years old have end arteries perforate the endplate and entering the disk, result in diskitis being the first focus in this age group. When disk degenerates, there is ingrowth of fibrovascular tissue into the disk in similar pattern as arteries in children. Old age group therefore can develop diskitis primarily. In adult, the richest ramification is at subchondral region, hence this is the most common site of initial infection.

Practical imaging related to understanding of pathophysiology of spinal infection that caused varying appearances in the images. Common pitfalls are the Modic type 1 endplate reaction and vacuum phenomenon which are degenerative process.

Pyogenic spondylitis frequently associated with pelvic infection, surgical procedures and debilitated conditions. Prevalence of Tuberculosis (TB) in developed countries decreased in the past 30 years due to early diagnosis and treatment. Prevalence again increased due to the rise of AIDS. Spinal tuberculosis accounts for 1% of all TB and 25-60% of musculoskeletal TB. Differentiation between pyogenic and TB spondylitis is important to decrease disability & functional impairment?

Imaging of spinal infection in the term of plain radiograph and MR imaging will be discussed in the session.

Keywords: Spine, Infection, Spondylitis, Tuberculosis