Top 5 tips: Axial Spondyloarthritis

Arthritis Subcommittee
Axial Spondyloarthritis (Ax-SpA)

- Umbrella-term including ankylosing spondylitis, Bechterew’s disease and radiographic and non-radiographic phenotypes / forms
- Belongs to a group of HLA-B27 associated inflammatory diseases*
- Involves the sacroiliac joints and the spine
- Inflammation leads to erosion and ankylosis
- No clinical biomarkers
- Effective treatment reduces inflammation & delays disease progression
- Imaging has an important role in early diagnosis

* Ankylosing spondylitis
Psoriatic arthritis
Reactive arthritis
IBD associated arthritis
Undifferentiated SpA
Tip#1: MRI of the sacroiliac joint

**Recommended protocol**

- Para-coronal T1
- Para-coronal T2FS or STIR
- Para-axial STIR
- 3D-T1FS

**MRI lesions**

**Acute**
- BME
- Enthesitis
- Capsulitis

**Structural**
- Fat Metaplasia
- Erosions
- Back-fill
- Ankylosis
Tip#2: MRI of the spine

**Recommended protocol**

Sagittal T1  
Sagittal T2FS/STIR

**MRI lesions**

**Acute**
- Ant/post spondylitis
- Spondylodiscitis

**Structural**
- Fat corner
- Arthritis
- Enthesitis
- Syndesmophyte
- Erosion
Tip#3: BME of the SIJ not always = sacroiliitis

Bone marrow edema

- Not pathognomonic for AxSpA
- Should be highly suggestive of AxSpA

Differential diagnoses

- Osteitis condensans illi
- Degenerative joint
- Infection
- Stress fracture
- Mechanical overload (marathon runner)
- Pediatric, developing joint
- Postpartum
Tip#4: Erosions

- Constant improvement in MRI sequences for erosion detection (e.g. 3D-1FS).
- CT is still the gold standard for structural lesions
- Low dose CT (LDCT) of SIJ; less radiation exposure compared to XR (<0.8mSv)
- CT has high diagnostic accuracy despite its insensitivity to BME
- Reading CT & MRI together improves specificity.
TIP #5: Differential diagnoses for SIJ structural lesions

MRI

- DISH
- Secondary hyperparathyroidism
- Accessory joint facet

CT

- DISH
- Secondary hyperparathyroidism
- Accessory joint facet

Ankylosis/
Anterior bridging

Erosions vs
Subperiosteal resorption

Sclerosis
References


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