Top 5 tips: Chronic non-bacterial osteitis

Arthritis Subcommittee
**Chronic non-bacterial osteitis (CNO)**

- CNO is an autoinflammatory disease characterized by recurrent flares of bone pain related to inflammatory osseous involvement in children and adolescents.
- During the years, CNO has been described under several names with CRMO (chronic recurrent multifocal osteomyelitis) being the most frequent term.
Tip#1: Clinical features

Clinical presentation range

- Mild-severe
- Bone involvement
  - Unifocal
  - Multifocal
- Characteristic target sites
- Fluctuating exacerbations & remissions
- Sometimes concomitant skin disease

Typical bone involvement

- Clavicle
- Vertebra
- Pelvis (tri-radiate cartilage)
- Metaphysis
- Long bones
Acute/chronic inflammation:
- Bone marrow edema
- Soft tissue edema
- Reduced vertebral height

May simulate infection/tumor
No abscess, fistula or sequester.
Bone biopsy often warranted
Tip#3: WBMRI

- Coronal STIR & T1 + optionally DWIBS
- Evaluation of disease burden
- Visualization of clinical active & silent lesions
- Improvement of diagnostic confidence with additional planes.
Tip#4: Imaging spinal lesions

- Whole spine imaging is recommended
- Sagittal T1 and STIR
- Active vertebral lesions with bone marrow edema (white arrows)
- Chronic lesions: sclerotic vertebra with low signal on T1 and STIR) (orange arrow)
- Reduced vertebral height (orange arrow)
Tip#5: Treatment and follow-up

Treatment:
- Biological agents
- Bisphosphonate

WBMRI, including sagittal imaging of the spine, for the evaluation of:
- Disease evolution
- Therapeutic response
- Clinically silent lesions
- Complications (e.g., growth disturbances and kyphosis)
References


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