

Top 5 tips: Rheumatoid Arthritis

Arthritis Subcommittee



ESSR EUROPEAN SOCIETY OF
MUSCULOSKELETAL
RADIOLOGY

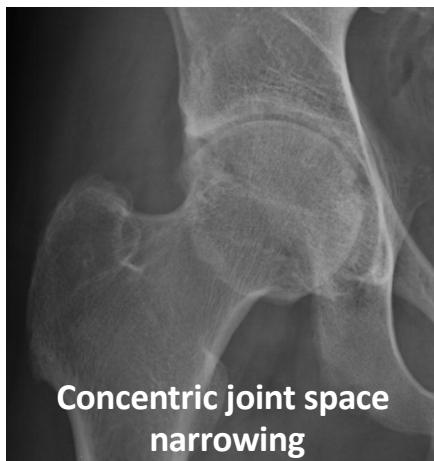
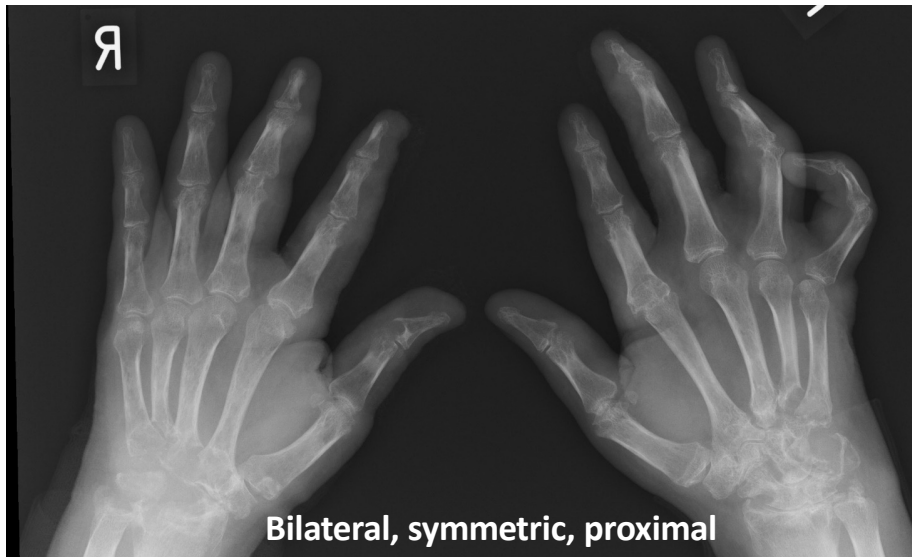
Rheumatoid arthritis (RA)

- Chronic systemic disease of unknown cause
- Inflammation primarily affects the synovia
- Usually, symmetrical involvement of peripheral joints
- Chronic synovial inflammation leads to structural damage of cartilage, bone, and ligaments.
- In most of the patients, multiple organs are affected.

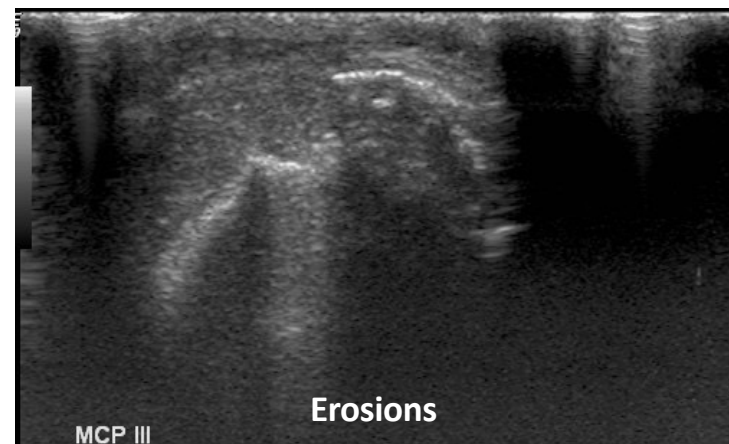
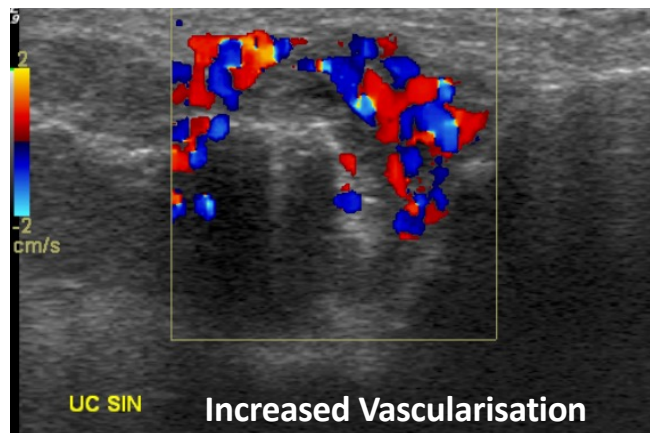
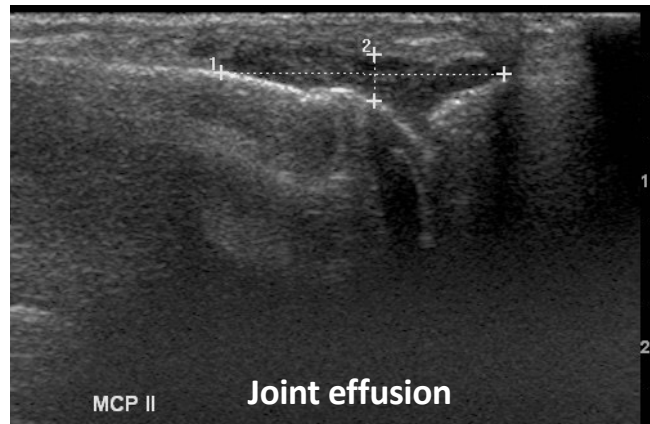
Clinical and laboratory diagnosis of RA

- Diagnosis = combination of findings that are followed over time
- No single laboratory tests, histologic or X-ray findings confirms RA
- Rheumatoid factor is positive in 85% of the patients with RA but can also be found in other diseases
- Anti-citrullinated peptide antibodies play a critical role in initiating the inflammatory response in RA.

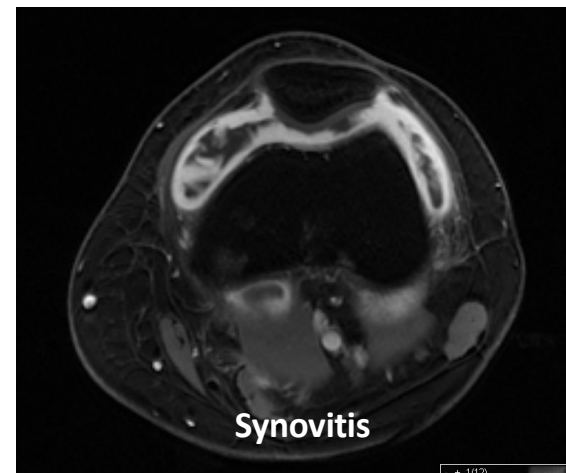
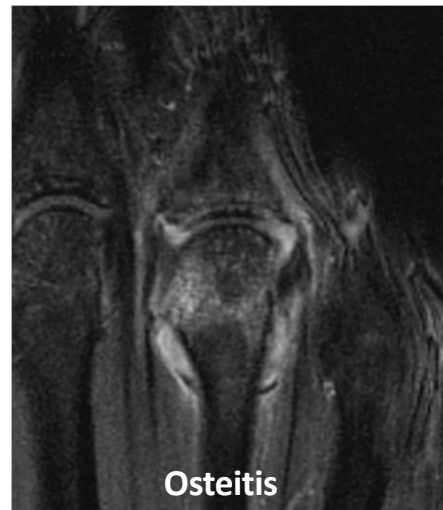
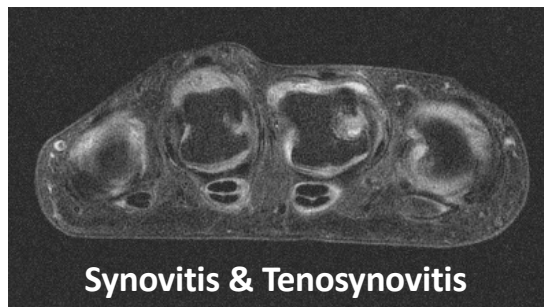
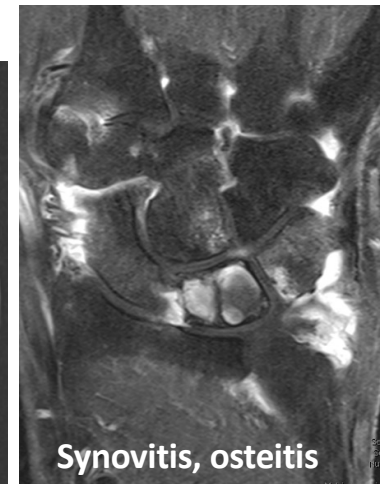
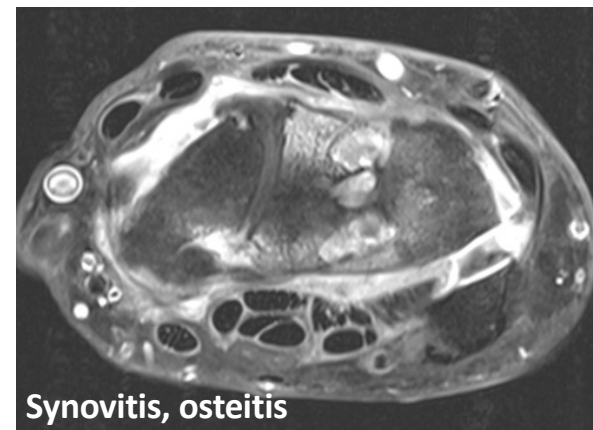
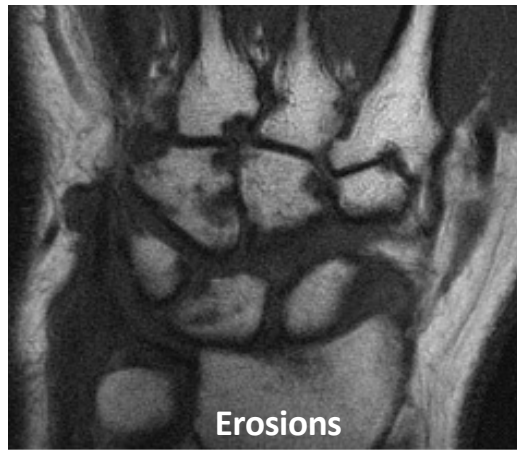
Tip#1: X-ray findings



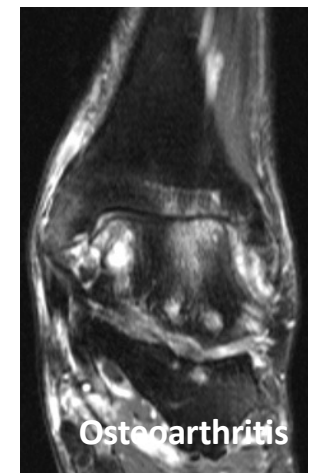
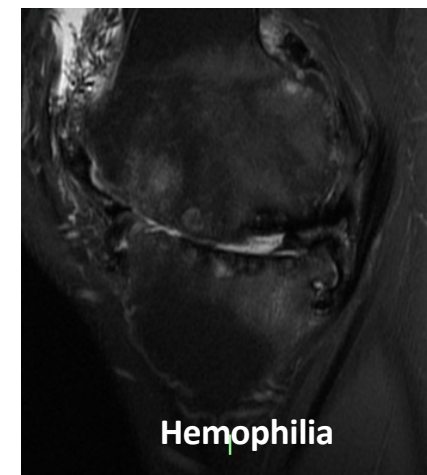
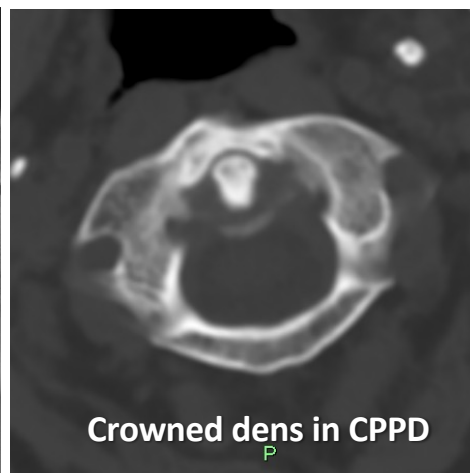
Tip#2: US findings



Tip#3: MRI findings

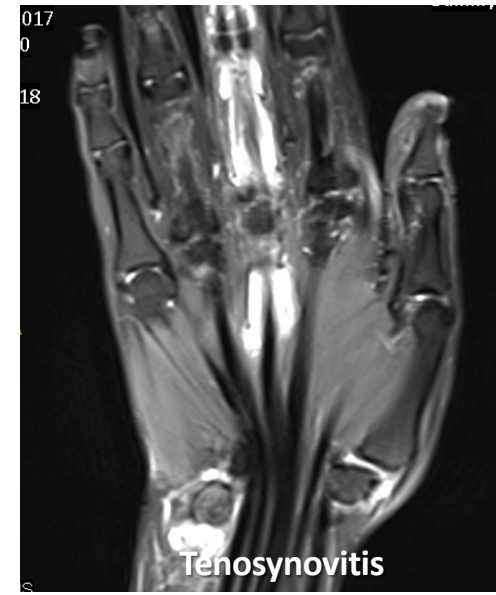
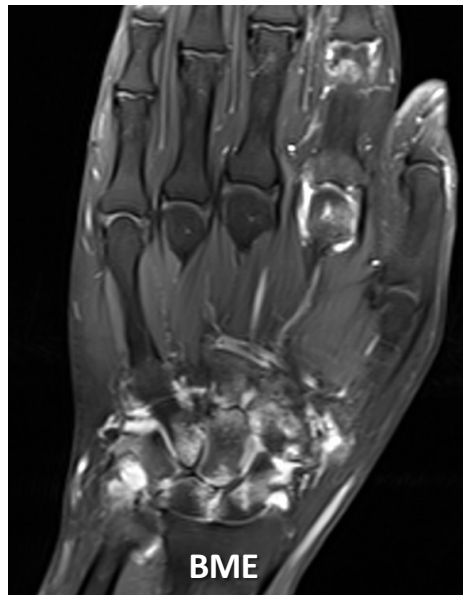


Tip#4: Differential diagnoses



Tip#5: Imaging as prognostic tool

- Synovitis at US/MRI is an independent predictors of erosive progression in early RA patients.
- BME is a strong predictor for subsequent erosions.
- Tenosynovitis of the flexor tendons of the hand in patients with undifferentiated arthritis has been associated with progression to clinical RA.



References

- Szkudlarek M, Court-Payen M, Strandberg C, et al. Eur Radiol 2003;13:163–168.
- Ribbens C, Andre B, Marcelis S, et al. Rheumatoid hand joint synovitis: gray-scale and power Doppler US quantifications following anti-tumor necrosis factor- α treatment: pilot study. Radiology 2003;229:562z-569.
- Bajaj S, Lopez-Ben R, Oster R, Alarcon GS. Ultrasound detects rapid progression of erosive disease in early rheumatoid arthritis: a prospective longitudinal study. Skelet Radiol 2007;36:123z-128.
- Bøyesen P, Haavardsholm E, van der Heijde D, et al. Prediction of MRI erosive progression: a comparison of modern imaging modalities in early rheumatoid arthritis patients. Ann Rheum Dis 2011;70:176–179.
- Hetland ML, Ejbjerg B, Horslev-Petersen K, et al. MRI bone oedema is the strongest predictor of subsequent radiographic progression in early rheumatoid arthritis. Results from a 2-year randomised controlled trial (CIMESTRA). Annals of the rheumatic diseases 2009;68:384–390.
- Eshed I, Feist E, Althoff CE, et al. Tenosynovitis of the flexor tendons of the hand detected by MRI: an early indicator of rheumatoid arthritis. Rheumatology 2009;48:887–891.
- Navalho M, Resende C, Rodrigues AM, et al. Bilateral MR imaging of the hand and wrist in early and very early inflammatory arthritis: tenosynovitis is associated with progression to rheumatoid arthritis. Radiology 2012;264:823–833.

Contributors

Gordana Ivanac

Del Grande Filippo

Eshed Iris

Project Coordinators

Chiara Giraudo

Winston Rennie

