

55 y/o Korean male presents with chronic bilateral hand and wrist swelling, pain and stiffness. Fatigue and 10lb weight loss.

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Study: IM6722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series: PA  
Image #171 www.UM 6398/2208  
Accession Number: 0191923

L  
KRW

R  
KRW

Area Dose Product: 0.284  
ELs: 205  
mAs: 1  
KVP: 52

ORIGINAL/PRIMARY  
Device: Philips Medical Systems OPAR/ADDR

Study IMG722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series Lateral  
Image #171 www/vvl 4203/2039  
Accession Number 3191323

L  
KRW

R  
KRW

Area Dose Product 0.332  
EI\_s 159  
mAs 1

ORIGINAL/PRIMARY

Study IMG722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series Oblique  
Image #171 www.wv 4429/2028  
Accession Number 3181323



L  
KRW

R  
KRW

Area Dose Product 0.332  
EI\_s 184  
mAs 1  
KVP 52

ORIGINAL/PRIMARY/  
Device Philips Medical Systems OPARADDR1



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A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching out, with a serrated edge.

# Rheumatoid Arthritis

Study IMG722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series PA  
Image #171 wwwj 6993/2206  
Accession Number 3191928



L  
KRW

R  
KRW

phalanges

metacarpals

carpus

bilateral early pan carpal bone erosions  
With joint space narrowing R>L

Area Dose Product: 0.284  
EI\_s 205  
mAs 1  
KVP 52

ORIGINAL PRIMARY  
Device: Philips Medical Systems OPARADDR

Study: IMC722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series: Lateral  
Image #: 111 wwwjwl 4203/2039  
Accession Number: 3191323

L  
KRW

Erosive  
change  
distal radius

b/l dorsal subluxation  
distal ulnar

R  
KRW

Erosive change  
distal radius

Area Dose Product 0.332  
EI\_s 159  
mAs 1

ORIGINAL/PRIMARY



Study: IMG722402 - XR HAND BILATERAL RHEUMATOLOGY  
Series: Oblique  
Image #1/1 www.wvl 4429/2028  
Accession Number: 3191323



Area Dose Product: 0.332  
EI\_s: 184  
mAs: 1  
KVP: 52

ORIGINAL/PRIMARY  
Device Philips Medical Systems OPARADDR1

# Rheumatoid Arthritis

- Epidemiology
  - More common in females 3:1
  - Onset typically 30-50 years old
  - Annual incidence RA 40 per 100,000 in United States
- Etiology
  - Autoimmune inflammatory arthritis
    - Proliferation macrophages in synovium of joints leading to lymphocyte infiltration
    - Ultimately joint and cartilage destruction in addition to other systemic complications
    - Most commonly small joints of hands (MCPs, PIPs) and feet (MTPs), and wrists
    - Cervical spine (C1-C2), and other large joints (shoulder, knee)
    - Axial skeleton relatively spared
  - Environmental factors and genetic factors likely both play role
    - HLA genes play role most significantly HLA-DRB1 gene
    - Hypothesis possible triggering event such as a viral infection
    - Smoking strong risk factor for development of RA

# Rheumatoid Arthritis

- Presentation
  - Progressive onset joint pain and swelling with symmetric polyarticular involvement
  - Joint decreased range of motion, redness, and warmth
  - Morning stiffness >1 hour that improves with activity
  - Tenosynovitis and carpal tunnel concomitantly
  - Significant fatigue, fever, anemia chronic disease, weight loss
- Diagnosis
  - Positive Rheumatoid factor (RF) and/or positive anti-cyclic citrullinated peptide (anti-CCP)
  - Elevated inflammatory markers ESR and CRP
  - X-ray/Radiographs:
    - Joint space narrowing, bone erosions, joint subluxation particularly ulnar in hand (“ulnar drift”)
    - Erosions typically around margin of the joint
    - Joint deformities including swan neck deformities and boutonniere deformity

# Rheumatoid Arthritis

- Differential Diagnosis
  - Psoriatic arthritis, systemic lupus erythematosus, crystalline arthropathy, inflammatory osteoarthritis, septic arthritis
- Management
  - Medical management to lower or achieve remission of inflammatory disease activity to prevent further destruction of joints and improve quality of life
  - Disease-modifying anti-rheumatic drug (DMARD)
    - Initiate as early as possible
    - Common agents include methotrexate, leflunomide, sulfasalazine
    - Biologic agents targeted against specific cytokines in the inflammatory pathway including:
      - Anti-TNF (adalimumab, etanercept, infliximab,
      - Anti-IL-12/23 (Ustekinumab)
      - Anti-IL-6 (tocilizumab)
      - Anti-B cell (rituximab)
  - May use steroids intermittently for acute flares but not for long-term therapy

# References

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