Psoriatic Arthritis

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Historical Patterns of PsA

- **Oligo/ monoarticular disease (~ 30-70%)**: Asymmetric, <5 joints, usually large, primarily LEs
- **Polyarticular disease (~15-45%)**: Symmetric, large & small joints, resembling RA
- **DIP joint disease (~5%)**: Associated with nail involvement
- **Arthritis mutilans (~5%)**: Severely destructive arthritis involving the hands with shortening of the digits
- **Axial (sole in ~5% but with other types in ~40%)**: Spondylitis and sacroiliitis, usually HLA B27-positive

Moll JMH, Wright V. *Semin Arthritis Rheum* 1973;3:55-78
Psoriatic arthritis: asymmetric synovitis
Psoriatic arthritis: nail changes, rash, and arthritis
Psoriatic arthritis: nail changes, rash, and arthritis
Psoriatic arthritis: hands
Axial PsA
Signs and Symptoms

- Morning stiffness >30 min in 50% of patients\(^1\)
- Joint tenderness sometimes less than in RA despite deformities\(^1\)
- Ridging, pitting of nails, onycholysis in up to 90% of pts vs only 40% of pts with psoriasis\(^2,3\)
- Dactylitis in >40% of pts\(^2,4\)
- Eye inflammation (conjunctivitis, iritis, or uveitis) in 7–33% of pts;
  - uveitis more commonly bilateral and chronic as compared to AS\(^2\)
- Distal extremity swelling with pitting edema in 20% of pts as the first isolated manifestation of PsA\(^5\)

Main Features and Their Frequency

Nail psoriasis (80%)\textsuperscript{4, 5}

DIP involvement (39%)\textsuperscript{2}

Enthesopathy (38%)\textsuperscript{2}

Dactyilitis (48%)\textsuperscript{3}

Back involvement (50%)\textsuperscript{1}

In nearly 70% of patients, cutaneous lesions precede the onset of joint pain, in 20% arthropathy starts before skin manifestations, and in 10% both are concurrent. \textsuperscript{6}

Comorbidities in PsA Patients

PsA patients
- Psychosocial burden
- Reactive depression
- Higher suicidal ideation
- Alcoholism

Metabolic Syndrome
- Hyperlipidemia
- Hypertension
- Insulin resistant
- Diabetes
- Obesity
⇒ Higher risk of Cardiovascular disease (CVD)

Ocular inflammation
(Iritis/Uveitis/Episcleritis)

IBD

## Main Features of PsA

### Clinical
- Psoriasis of skin and nails
- Peripheral arthritis
- Distal interphalangeal (DIP) involvement
- Dactylitis
- Enthesopathy

### Laboratory
- Rheumatoid factor (RF) & Anti-citrullinated protein antibodies (ACPA) negative*
- Elevated Acute Phase**

### Radiographic
- Erosions and resorptions
- Joint space narrowing or involvement of enthesal sites
- New bone growth at the enthesis
- Syndesmophytes***
- Sacroiliitis***

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*Low levels of RF and ACPA can be found in 5-16% of patients; **To a lesser degree than in RA
***Spinal disease occurs in 40-70% of PsA patients

Helliwell PS & Taylor WJ. Ann Rheum Dis 2005;64(2:ii)3-8
Fitzgerald “Psoriatic Arthritis” in Kelley’s Textbook of Rheumatology, 2009
Hallmark Clinical Features in PsA

- Psoriatic Arthritis
  - Dactylitis
  - Enthesitis

Dactylitis

- Diffuse swelling of a digit may be **acute**, with painful inflammatory changes, or **chronic** wherein the digit remains swollen despite the disappearance of acute inflammation

- Also referred to as “sausage digit”

- One of the cardinal features of PsA, in up to 40% of patients

- Feet most commonly affected

- Dactylitis involved digits show more radiographic damage

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Definition of Enthesitis

- **Entheses** - the regions at which a tendon, ligament, or joint capsule attaches to bone\(^1\)
- **Enthesitis** - inflammation at the entheses\(^1,2\)
- Pathogenesis of enthesitis has yet to be fully elucidated\(^2\)
- Isolated peripheral enthesitis may be the only rheumatologic sign of PsA in a subset of patients\(^3\)

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\(^3\)Salvarani C. *J Rheumatol.* 1997;24:1106–1140.
How to Diagnose Those Without Skin Findings

- Look for distal joint involvement in asymmetric distribution
- Look at the nails
- Look in ears
- Ask about family history
- Look for dactylitis
Psoriatic arthritis: nail pitting
Psoriatic arthritis: nail dystrophy and arthritis
PsA: Radiographic Characteristics

- Erosive arthritis (usually asymmetric)
- Pencil-in-cup deformity
- Bony ankylosis
- Arthritis mutilans
- Spurs/ periosteal reaction
- Non-marginal asymmetric syndesmophytes
- Asymmetric sacroiliitis
Pencil-in-cup Deformity
PsA: Progressive Joint Changes
Juxta-articular Periostitis and Ankylosis
Arthritis Mutilans
Arthritis Mutilans

Pencil-in-cup Osteolysis

Gross Osteolysis
Spurs/ Periosteal Reaction
Sacroilitis
Spinal Involvement: Syndesmophytes
Differential Diagnosis

- Reactive (Reiter’s) Arthritis
- Rheumatoid Arthritis with concomitant psoriasis
- Ankylosing Spondylitis
- Gouty Arthritis
HIV Patients

- Increased incidence
  - reactive arthritis
  - psoriasis
  - psoriatic arthritis
- Explosive onset and more severe disease course
- Testing for HIV indicated in newly diagnosed severe psoriatic or reactive arthritis
Course and Prognosis

- 20% of patients have a severe and debilitating form of arthritis
- Originally thought to be more benign course than RhA
- Progression of clinical damage occurs in a majority of patients
- Radiologic changes occur over time despite treatment
Classification Criteria of PsA

How to diagnose PsA?
Classical Description of PsA Using the Diagnostic Criteria of Moll and Wright

- Including 5 clinical patterns:
  - Asymmetric mono-/oligoarthritis (~30%)^{1-4}
  - Symmetric polyarthritis (~45%)^{1-4}
  - Distal interphalangeal (DIP) joint involvement (~5%)^{1}
  - Axial (spondylitis and sacroiliitis) (HLA-B27) (~5%)^{1,3}
  - Arthritis Mutilans (<5%)^{1,3}

- However patterns may change over time and are therefore not useful for classification^{5}

HLA: Human leucocytes antigen

Patterns may Change Over Time

Clinical subgroups at baseline and follow-up:

- Monoarthritis
- Oligoarthritis
- DIP
- Polyarthritis
- Spondyloarthritis
- Mutilans

No clinical evidence of joint disease
CASPAR Criteria for the Classification of PsA

- Inflammatory articular disease (joint, spine, or enthesesal)
- With $\geq 3$ points from following categories:
  - Psoriasis: current (2), history (1), family history (1)
  - Nail dystrophy (1)
  - Negative rheumatoid factor (1)
  - Dactylitis: current (1), history (1) recorded by a rheumatologist
  - Radiographs: (hand/foot) evidence of juxta-articular new bone formation
- Specificity 98.7%, Sensitivity 91.4%

Taylor et al. Arthritis & Rheum 2006;54: 2665-73
### Assessment of PsA Disease Severity

**GRAPPA Disease Severity Table**

<table>
<thead>
<tr>
<th></th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
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| **Peripheral arthritis** | • < 5 joints  
• No damage on X-ray  
• No LOF  
• QOL-minimal impact  
• Pt evaluation mild | • ≥ 5 joints (Swollen or Tender)  
• Damage on X-ray  
• IR to mild therapy  
• Moderate LOF  
• Moderate impact on QoL  
• Pt evaluation moderate | • ≥ 5 joints (Swollen or Tender)  
• Severe damage on X-ray  
• IR to mild-moderate therapy  
• Severe LOF  
• Severe impact on QoL  
• Pt evaluation severe |
| **Skin disease** | BSA < 5, PASI < 5, asymptomatic           | Nonresponse to topicals, DLQI ≤ 10, PASI < 10             | BSA > 10, DLQI > 10, PASI > 10                          |
| **Spinal disease** | • Mild pain  
• No loss of function | Loss of function or BASDAI >4                           | Failure of response                                       |
| **Enthesitis** | • 1-2 sites  
• No loss of function | > 2 sites or loss of function                           | Loss of function or > 2 sites and failure of response     |
| **Dactylitis** | • Pain: Absent to mild  
• Normal function | Erosive disease or loss of function                      | Failure of response                                       |

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1. Reproduced from Ritchlin C, et al, with permission from BMJ Publishing Group Ltd.

- BASDAI = Bath Ankylosing Spondylitis Disease Activity Index
- BSA = body surface area
- DLQI = dermatology life quality index
- IR = inadequate responders
- LOF = loss of function
- PASI = Psoriasis Area Severity Index
- QoL = quality of life
- Rx = therapy

THANK YOU