Psoriatic Arthritis

UCT Undergrad Teaching

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Epidemiology: [1,2]

- Psoriasis (PsO) 1 – 3 % of population
- Male = Female
- Family history
- Age onset – usually around +/- 50 years

- Psoriatic arthritis (PsA) ≅ 30% of patients with PsO will get arthritis
  - ≅ 70% will have established Psoriasis
  - ≅ 15% will have simultaneous onset both
  - ≅ 15% will have arthritis before skin lesions or not known PsO
- Psoriasis and PsA remain uncommon in African black population in studies in sub Saharan Africa[3]
  - Might be underreported due to lack of data from some regions e.g. 2% of patients at Johannesburg Dermatology clinic, 0.4% patients at Dermatology clinic in Ghana.
  - Be careful in patients with mixed race ancestry

Pathophysiology: [1]

- Genetic predisposition
  - ➢Family history, Twins (Monozygotic > Dizygotic)
  - ➢ Hla B27 (Axial Disease), IL23R (enthesitis)
- Environmental factor or Trigger
  - Infections (Hiv, Strep)
  - Trauma
  - Smoking
  - Obesity
  - ? Gut Biome

- Immune response
  - Angiogenesis
  - Pro- Inflammatory mediators
  - Activation of
    - T cells – TNF alpha, Interleukin 17A, interferon gamma, IL 2-4
    - Macrophages
    - Synoviocytes
    - Dendritic cells
    - B Cells
    - Osteoclasts
- Damage to bone, enthesis and cartilage damage.

Steps to identifying a patient with PsA

1. Is the patient known with Psoriasis?
   - If 30% of patients with PsO get an arthritis the presence of the skin disease makes this diagnosis likely
2. Does the patient have an arthritis with a pattern in keeping with PsA?
   - Classifying the arthritis presentation will help to better understand the diagnosis, course and management
3. Does the patient have nail signs in keeping with Psoriasis
   - Very helpful for making diagnosis in patients without known PsO or skin lesions

1. Is the patient known with Psoriasis

- Ask about history of skin lesions or diagnosis of PsO
- Skin lesions often precede the arthritis by some years
- General examination
  - Look for PsO lesions – variable size and morphology
  - Koebner Phenomenon – Lesions forming in areas of skin trauma
  - Remember areas patients might not be able to see hidden lesions
    - Ears
    - Scalp
    - Skin Folds / intertriginous
    - Back, Groin and Buttocks area
    - Umbilicus

- Chronic Plaques types
  - Erythematous, sharp defined margins. Silvery scale
- Guttate
  - “Drop like”, multiple small plaques and pustules. Usually < 1cm
- Pustular psoriasis
  - Generalized lesions, Distal Digits, Palmoplantar pustulosis.
- Erythroderma
  - Generalised erythema and scaling, most to all body surface. Rare presentation.

2. Patterns of PsA (Moll and Wright classification)

- DIP involvement
  - Arthritis of the distal inter-phalangeal joints
- “RA like” symmetrical polyarthritis
  - Symmetrical small and large joints in a similar, almost identical pattern to Rheumatoid arthritis
- Oligoarthritis (May be monoarthritis)
  - 2- 4 Joints involvement
- Spondyloarthropathy
  - Axial Involvement- spondylitis, sacroiliitis and hips
- Arthritis mutilans
  - Rare form of arthritis, painful rapid destructive with deformative arthritis, resorption of phalangeal bones

- The patterns of arthritis in PsA are important however it is not uncommon for overlap of arthritis pattern e.g. RA like with DIP.
- Some patterns might be asymmetrical. “Ray Pattern” – MCP, PIP and DIP in one hand only.
- Arthritis patterns often progress over time e.g an oligoarthritis might become a polyarthritis. Important for history taking to get chronological events of arthritis.

3. Does the patient have nail signs in keeping with Psoriasis[3]

- Nail involvement is an important sign for the development of PsA.
- Up to 80 % of patients with PsA have nail involvement
- Development may precede the arthritis

Psoriatic Nail Changes:[3]

Nail Matrix Disease	Nail Bed Disease	Other
• Pitting • Leukonychia • Red spots in Lunula • Nail Plate Crumbling	• Onycholysis • Oil Drop Discolouration • Splinter Haemorrhages • Subungual Hyperkeratosis	• Longitudinal Ridges • Beau Lines • Onychorrhexis • Psoriatic paraonychia

Other Musculoskeletal Features:[4]

- Dactylitis
  - ➢ Sausage digits – complete swelling of digit. Soft tissue oedema, bone oedema, synovitis and tenosynovitis.
- Enthesitis
  - ➢ Inflammation lesions at the insertion points of tendons into bones. Often associated with spondylarthritis. Common found – Achilles tendon, Plantar Fascia, Ligaments in pelvic bones.

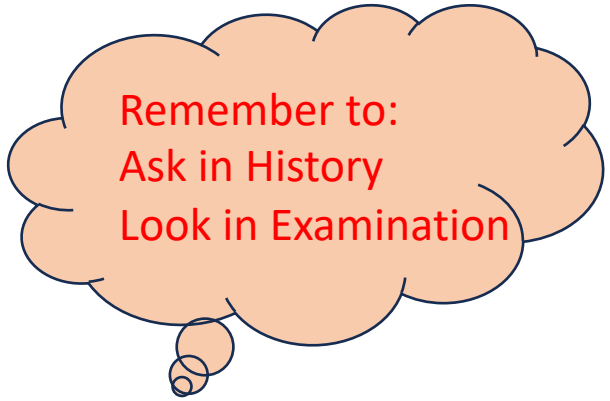
Extra-Articular Manifestations:[4]

Eyes:	Git
1. Uveitis (up to 25% pts) 2. Keratoconjunctivitis Sicca 3. Keratitis 4. Blepharitis 5. Conjunctivitis 6. Episcleritis 7. Scleritis	Association with IBD

Remember to:
Ask in History
Look in Examination

Co-morbidities:[4]

- Patients with Psoriatic arthritis may have associated co-morbidities
- These might be associated with treatment or disease process
- Important for long term patient care



Cardiovascular Disease	• Myocardial Infarctions • Cerebrovascular accidents • Heart Failure
Liver Disease	• Metabolic associated fatty liver disease • Drug induced liver injury
Renal Disease	• Chronic kidney disease • Drug induced kidney injury
Osteoporosis	
Depression and anxiety	
Gout	

PsO/PsA and HIV:[2]

- Increased PsO and PsA in HIV positive patients vs general population
- Difficulty in diagnosis due to other skin disorders
- Risk of treatment in immunocompromised individuals
  - Concerns of TB risk

CASPAR Classification: Inflammatory articular disease and 3 additional points:[5]

Category	Point
Current psoriasis	2
Personal history of psoriasis	1
Family history of psoriasis	1
Typical psoriatic nail dystrophy (onycholysis, pitting, hyperkeratosis)	1
Negative rheumatoid factor	1
Current dactylitis or history of dactylitis (recorded by a rheumatologist)	1
Hand or foot plain radiography: evidence of juxta-articular new bone formation, appearing as ill-defined ossification near joint margin (excluding osteophytes)	1

Investigations:[4]

- Blood tests: Non-specific elevated “Inflammatory markers”. Negative immunological test more helpful – RF, Anti CCP and ANA may be positive in some patients – not diagnostic.
- X-ray changes:
  - Asymmetric distribution.
  - Erosions
  - Osteolysis - “Pencil in cup deformity”, Mutilans
  - Proliferative Changes
- MRI – may assist with identifying soft tissue and axial disease
- Ultrasound - may assist with identifying joint effusion and entheseal pain if clinical uncertainty

Treatment:[6]

- Some treatments may benefit PsO as well, especially disease modifying agents- DMARDs (conventional synthetic DMARDS and Biologics)
- Nail disease not always responsive to all treatment and may be treated differently
- Axial disease treated separately

NSAID's	• Good for inflammation, pain relief and axial disease • Risk of side effects
Corticosteroids	• Intra-articular for individual joints • Oral may risk worsening skin disease
csDMARDs	• Not for axial Disease • Methotrexate • Leflunomide • Sulfasalazine
Biologics	• Tumour Necrosis factor inhibitors • Phosphodiesterase 4 inhibitors • Anti Interleukin 12 and 23 agents • Anti Interleukin 17 inhibitors • JAK inhibitors

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