Different Inflammatory Arthitis

Juvenile Idiopathic arthritis

JIA is rare chronic inflammatory arthritis before age 16 years for at least 6 weeks,, <u>Several subtypes</u> :

Systemic JIA (Still's disease)	**Oligoarthritis (≤4 joints)** "60%"	**Polyarthritis (≥ 5 joints)**		**Enthesis-related**	**Psoriatic arthritis**
	More common in females	**<u>Rheumatoid factor-negative</u> form**	**<u>Rheumatoid factor-positive</u> form**		
• Affects boys and girls equally up to **5 years** of age; → then girls are more commonly affected. • **<u>Adult-onset Still's disease is rare :</u>** - Acute phase response, - with a elevated serum ferritin - Tests for RF & ANA are negative.	• <u>2 subtypes are recognised, depending on the extent of involvement</u> **1- Oligoarthritis (Persistent).** **2- Oligoarthritis (Extended).** - Oligoarthritis extends to affect many more joints after around 6 m. - This form can be very destructive.	• Affects girls under 12 years • but can occur at any age.	• Affects girls over 8 years	• Affects teenage & younger boys mainly	• This occurs in children & is similar in pattern to the adult form.
1- **<u>F</u>**ever, 2- **<u>R</u>**ash (maculopapular non-pruritic) 3- **<u>A</u>**rthritis / Arthralgia / Myalgia 4- **<u>S</u>**erositis 5- **<u>H</u>**epatosplenomegaly 6- **<u>G</u>**eneralized lymphadenopathy 7- **<u>P</u>**eri-Carditis / **<u>P</u>**leurisy	**1- <u>Large-joint arthritis :</u>** - Affect large joints (knees, ankles and wrists) in an **asymmetrical pattern** **2- <u>Uveitis:</u>** (often with a +ve ANA)	**1- <u>Asymmetrical Arthritis :</u>** - Arthritis involves small joints of the hands, wrists, ankles & feet initially, → eventually larger joints. - It may also affect : • Cervical spine • Temporomandibular joints • Elbows **2- <u>Uveitis</u>** (often with a +ve ANA)	**1- <u>Asymmetrical Arthritis :</u>** - Similar distribution to RF negative form - It can be very destructive arthritis.	**1- <u>Asymmetrical Arthritis :</u>** - of lower-limb joints **2- <u>Enthesitis.</u>** **3- <u>Iritis.</u>** 4- t is the childhood equivalent of **adult ankylosing spondylitis.** **<u>(Sacroiliitis)</u>**	**Same as adult disease** (See below)
• Raised ESR & CRP . • Neutrophilia / Thrombocytosis					
Autoantibody-negative	ANA-positive (Anti-Nuclear Antibodies)	RF-negative, **ANA-positive**	RF-positive, **ACPA-positive** (anti-citrullinated peptide antibodies)	HLA-B27-positive	Autoantibody-negative

The principles of management are similar to those in adult inflammatory disease :

- **<u>Systemic JIA</u>** → 1- Corticosteroids and 2- methotrexate are required / 1- TNF blockers, 2- IL-1 inhibitors 3- tocilizumab - **<u>Oligoarticular & Polyarticular JIA</u>** → 1- Steroids and 2- Methotrexate / anti-TNF therapy in poor responders.

Seronegative spondyloarthropathies (Spondyloarthritis)

25.64 Clinical features common to seronegative spondyloarthritis

- Asymmetrical inflammatory oligoarthritis (lower > upper limb)
- Sacroiliitis and inflammatory spondylitis
- Inflammatory enthesitis
- Tendency for familial aggregation
- RF and ACPA negative
- Absence of nodules and other extra-articular features of RA
- Typical overlapping extra-articular features:
  - Mucosal inflammation: conjunctivitis, buccal ulceration, urethritis, prostatitis, bowel ulceration
  - Pustular skin lesions and nail dystrophy
  - Anterior uveitis
  - Aortic root fibrosis (aortic incompetence, conduction defects)
  - Erythema nodosum

Ankylosing spondylitis

- Ankylosing spondylitis (AS) is characterised by a chronic inflammatory arthritis predominantly affecting the **sacroiliac joints & spine**, → which can progress to **bony fusion of the spine**.
  - Ages of onset 20 – 30 - Incidence: 0.5% - Male preponderance of 3 : 1.
- **<u>Clinical features:</u>**

A) Arthritis :

1- Central: Spondylitis &or sacroilitis

2- Peripheral (40%) : Asymmetrical, affecting large joints (hips, knees, ankles , shoulders).

- The cardinal feature is **low back pain** and **early morning stiffness** with radiation to buttocks.
- Symptoms are **exacerbated by inactivity / relieved by movement.**
- The disease tends to **ascend slowly, ultimately involving the whole spine** → Stiffness of spine.
- **2ry osteoporosis of the vertebral bodies** → leading to vertebral fracture.
- Signs:
  1- Reduced range of lumbar spine movements in all directions
  2- Pain on sacroiliac stressing.
  3- As the disease progresses, → spine & chest expansion becomes restricted.

B) Enthesitis : (Inflammation at the sites of tendon insertions)

1- Plantar fasciitis **2- Achilles tendinitis** 3- tenderness over bony prominences.

<u>Extra-articular Manifestations</u>

Acute anterior uveitis *is the most common extra-articular feature, which occasionally precedes joint disease.*

25.65 Extra-articular features of ankylosing spondylitis

- Anterior uveitis (25%) and conjunctivitis (20%)
- Prostatitis (80% men): usually asymptomatic
- Cardiovascular disease
  - Aortic incompetence
  - Mitral incompetence
  - Cardiac conduction defects
  - Pericarditis
- Amyloidosis
- Atypical upper lobe pulmonary fibrosis

- **<u>Investigations :</u>**

- X ray:

1- Sacro-iliac joints:

- Irregularity and loss of cortical margins,
- Widening of joint space → subsequently sclerosis, joint space narrowing /fusion
- Lateral thoracolumbar spine X-rays may show anterior 'squaring' of vertebra.

2- Spine: erosions, calcification, ossification of ALL , facet joint fusion **(Bamboo spine).**

- Lab:

1- HLA-B27: in 95% of cases.*(not used for the diagnosis)*

(although a –ve result makes ankylosing spondylitis unlikely, a +ve result is of little help)

2- ESR, CRP: usually raised in active disease

3- RF , ACPA , ANA autoantibodies: -ve

Reactive arthritis (Reiter's disease)

- Age of onset : 16–35 .
- 1 and 2% of patients with non-specific urethritis.
- Male preponderance of 15 : 1

<u>Classic triad</u> :

1- Non-specific urethritis
2-Conjunctivitis (~50%)
3-Reactive arthritis

<u>Additional extra-articular features :</u>

1- Circinate balanitis (20–50%)
2-Keratoderma blennorrhagica (15%).
3- Nail dystrophy
4-Buccal erosions (10%)

<u>Precipitated by</u>

1-Bacterial dysentery, mainly *Salmonella, Shigella, Campylobacter* or *Yersinia*
2-Sexually acquired infection with *Chlamydia*

- **<u>Clinical features :</u>**

A) Arthritis :

- Acute onset .
- Asymmetrical oligoarthritis .
- Targets lower limb joints, such as the knees, ankles, midtarsal and MTP joints.
- Few days to a couple of weeks after the infection.
- *Sacroiliitis and spondylitis may also develop.*

B) Conjunctivitis / Acute anterior uveitis .

C) Non-Specific urethritis.

D) Skin lesions (resemble psoriasis) :

- ***Circinate balanitis*** in the uncircumcised male causes painless superficial ulceration of the glans penis. In the circumcised male the lesion is raised, red and scaly. Both heal without scarring.
- ***Keratoderma blennorrhagica*** – the skin of the feet and hands develops painless, red and often confluent raised plaques and pustules histologically similar to pustular psoriasis.
- ***Nail dystrophy*** occurs.

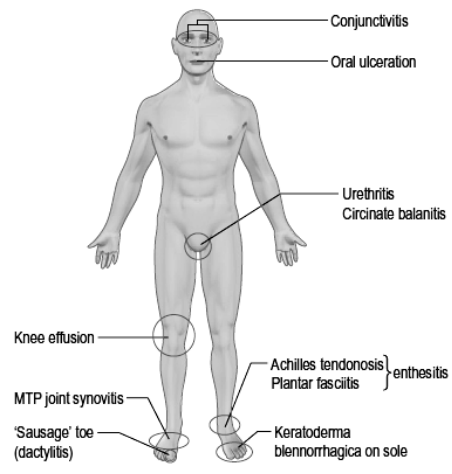

Figure 11.24 Clinical features of reactive arthritis.

Psoriatic arthritis

- Age of onset : 25 - 40 years .
- 7–20% of patients with psoriasis up to 0.6% of the general population.

- **<u>Clinical features :</u>**

Pain + Swelling affecting the joints

- Course :
  - Intermittent exacerbation followed by varying periods of complete or near-complete remission.
  - Destructive arthritis and disability are uncommon, except in the case of **arthritis mutilans.**

- Several patterns of joint involvement :

1-<u>Asymmetrical oligoarthritis :</u>

- Abruptly combination of **synovitis** AND adjacent **periarticular inflammation**.
- Occurs characteristically in the hands and feet, when **synovitis of a finger or toe** is coupled with 1)tenosynovitis, 2)enthesitis 3) inflammation of intervening tissue → to give a **'sausage digit'**.

2-<u>Symmetrical polyarthritis :</u>

- Resemble RA, with symmetrical involvement of small and large joints in both upper & lower limbs.
- Extra-articular features of RA are absent
- Arthritis is generally less extensive.

3-<u>Distal IPJ arthritis :</u>

- It targets finger **DIP joints + periarticular tissues .**
- Adjacent nail dystrophy → *reflecting enthesitis extending into the nail root.*

4-<u>Psoriatic spondylitis :</u>

- Uni- or Bilateral sacroiliitis
- Early cervical spine involvement;
- Only 50% are HLA-B27 positive

5-<u>Arthritis mutilans :</u>

- **Deforming erosive arthritis** targeting the fingers and toes.
- Marked periarticular osteolysis and bone shortening ('telescopic' fingers).

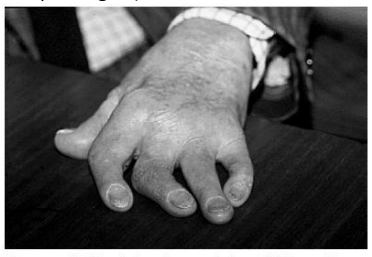

Figure 11.22 Hand showing psoriatic arthritis mutilans. All the fingers are shortened and the joints unstable, owing to underlying osteolysis.

<u>Radiologically :</u>

psoriatic arthritis is erosive but the erosions are central in the joint, not juxta-articular, and produce a **'pencil in cup' appearance**

Enteropathic arthritis

- Acute inflammatory asymmetrical oligoarthritis occurs in :
  - 10% of patients with **Ulcerative colitis**.
  - 20% of patients with **Crohn's disease**.

➔*Joint symptoms predate the development of bowel disease.*

- Joints affected:
  1-Predominantly affects large lower limb joints (knees, ankles, hips)
  2-but also small joints of the hands and feet.
- Arthritis sometimes is accompanied by : 1- Aphthous mouth ulcers
  2- Iritis
  3- Erythema nodosum.
- Arthritis usually coincides with:
  - exacerbations of the underlying bowel disease.
- *Sacroiliitis and spondylitis may also develop.*

<u>Remission :</u>

- Remission of ulcerative colitis or total colectomy usually leads to remission of the joint disease,
- Arthritis can persist even in well-controlled Crohn's disease.

Felty's Syndrome (variant of rheumatoid disease)

- It's association of: **RA**+ **<u>S</u>plenomegaly** + **<u>N</u>eutropenia.**
- **<u>C/P :</u>**

1-Splenomegaly with Hypersplenism → <u>Pancytopenia.</u>

2-Hepatomegaly (due to lymphocytic infiltration of liver)

3-**Generalised & local lymphadenopathy** (persistent lymphadenopathy should be biopsied since there is increased risk of lymphoma in patients with longstanding RA).

- **<u>Investigations :</u>** RF is sero +ve / Blood picture shows pancytopenia.
- **<u>Treatment:</u>** cortisone of choice / splenectomy if needed.

25.56 Felty's syndrome

Risk factors	
• Age of onset 50–70 yrs • Female > male • Caucasians > blacks • Long-standing RA	• Deforming but inactive disease • Seropositive for RF
Common clinical features	
• Splenomegaly • Lymphadenopathy • Weight loss • Skin pigmentation	• Keratoconjunctivitis sicca • Vasculitis, leg ulcers • Recurrent infections • Nodules
Laboratory findings	
• Normochromic, normocytic anaemia • Neutropenia • Abnormal liver function	• Thrombocytopenia • Impaired T- and B-cell immunity

Sjogren's syndrome

- Autoimmune disorder of unknown cause, characterised **by lymphocytic infiltration of salivary and lachrymal glands**, leading to→ **glandular fibrosis & exocrine failure**.
- **<u>Secondary Sjogren's syndrome :</u>**
  - With other autoimmune diseases.
- **<u>C/P :</u>**

1-Eye symptoms, termed keratoconjunctivitis sicca →confirmed by Schirmer test: **wetting of <5mm in 5 min. indicate defect in production of tears.**

2-Xerostomia (Dry mouth)

3-Salivary gland enlargement.

4-Lymphadenopathy with increased risk of lymphoma.

- **<u>Investigations :</u>**

1-Schirmer tear test.

2-Staining with rose Bengal may show punctate epithelial abnormalities

3-Elevated ESR

4-Hypergammaglobulinaemia.

5-Autoantibodies : ANA / **RF (90%)** / Anti-Ro and anti-La

25.70 Features of Sjögren's syndrome

Risk factors	
• Age of onset 40–60 • Female > male	• HLA-B8/DR3
Common clinical features	
• Keratoconjunctivitis sicca • Xerostomia • Salivary gland enlargement	• Non-erosive arthritis • Raynaud's phenomenon • Fatigue
Less common features	
• Low-grade fever • Interstitial lung disease • Anaemia, leucopenia • Thrombocytopenia • Cryoglobulinaemia • Vasculitis	• Peripheral neuropathy • Lymphadenopathy • Lymphoreticular lymphoma • Glomerulonephritis • Renal tubular acidosis
Autoantibodies frequently detected	
• RF • ANA • SS-A (anti-Ro)	• SS-B (anti-La) • Gastric parietal cell • Thyroid
Associated autoimmune disorders	
• SLE • Progressive systemic sclerosis	• Primary biliary cirrhosis • Chronic active hepatitis • Myasthenia gravis

Behcet's syndrome

- This is a vasculitis of unknown aetiology that characteristically targets small arteries and venules.
- Strong association with HLA-B51.
- **<u>C/P :</u>**

1-Arthritis (usually non-erosive, asymmetrical , lower limb).

2-Oral ulcer :

- Unlike aphthous ulcers, they are deep/multiple/last for 10–30 d.
- Painful ulcers (remember SLE is painless ulcer unless infected).

3- Genital ulcer.

4- Ocular: anterior or posterior uveitis/ retinal vasculitis**.**

5-Occlusive vasculitis (IVC thrombosis).

- **<u>Diagnosis :</u>**
  - Made on clinical grounds.
  - Pathergy test, *which involves pricking the skin with a needle and looking for evidence of pustule development within 48 hours.*

Criteria for the diagnosis of Behçet's syndrome

- Recurrent oral ulceration: minor aphthous, major aphthous or herpetiform ulceration at least three times in 12 mths

Plus two of the following:

- Recurrent genital ulceration
- Eye lesions: anterior uveitis, posterior uveitis, cells in vitreous on slit lamp examination, retinal vasculitis
- Skin lesions: erythema nodosum, pseudofolliculitis, papulopustular lesions, acneiform nodules
- Positive pathergy test