

Osteoarthritis

Definition

Progressive loss of articular cartilage with reactive changes in the bone, results in pain and joint destruction (most common arthropathy in adults)

Clinical Features

Decreased ROM, joint crepitus, pain worsening throughout the day

Common sites

DIP joint (Heberden's nodes + PIP joint (Bouchard's nodes), and wrist/hip/knee/spine

Imaging

Asymmetric narrowing or joint spaces, subchondral sclerosis, cysts, marginal osteophytes

Treatment

Weight reduction, physical activity, acetaminophen, NSAIDs, intra-articular steroids. Total joint replacement in advanced cases.

Rheumatoid Arthritis

Definition

A chronic autoimmune disease with synovitis affecting multiple joints and other systemic extra-articular manifestations. Joint destruction ultimately occurs.

Typical patient

F > M, 40-60yo at onset (juvenile in pts < 16yo)

Clinical Features

Morning stiffness, symmetric, subcutaneous nodules, RF level > 95th percentile, arthritis of hand joints, soft-tissue swelling (DIP joints spared)

Extra-articular manifestations

Osteoporosis, changes in skin/lungs/kidneys/eyes/liver/bloodstream/hearing

Rheumatoid Arthritis (cont)

Lab Studies

Elevated ESR + CRP, RF and anti-CCP positive in up to 80%

Treatment

PT + NSAIDs + DMARDs (MTX, corticosteroids, biologics) and reconstructive surgery for severe cases.

Gout

Definition

A systemic disease of altered purine metabolism and subsequent sodium urate crystal precipitation into synovial fluid

Typical patient

M > W (until menopause, then 1:1)

Clinical Features of Initial Attack

Metatarsal phalangeal joint of the great toe (podagra)

Symptoms around involved joint

Pain, swelling, redness, exquisite tenderness

Substance that may form adjacent to the joint, diagnostic!

Tophi (chalky deposits of uric acid)

Lab Studies

Joint fluid shows rod-shaped, negatively birefringent urate crystals seen. Serum uric acid level often > 8 mg/dL

Lifestyle Modifications

Elevation, dietary modifications (avoid purines and EtOH)

Pharmacotherapy

NSAIDs (indomethacin), corticosteroid injections, colchicine in between attacks

Polymyalgia Rheumatica (PMR)

Definition

Syndrome with pain and stiffness in the neck/shoulder/pelvic girdles and is accompanied by constitutional symptoms (fever, fatigue, weight loss, depression)

Etiology

Unknown (F > M)

Associated with

Temporal arteritis (30% of cases)

Clinical features

Stiffness, worse after rest and in the morning. MSK symptoms are bilateral, proximal, symmetrical

Must r/o...

Giant Cell Arteritis (scalp tenderness, jaw claudication, headache, temporal artery tenderness--> can lead to vision loss)

Lab Studies

ESR elevated (> 50mm/hr)

Treatment

Low-dose corticosteroids (higher doses if GCA), might need to be on for 2 years

Sjogren's Syndrome

Definition

An autoimmune disease that destroys the salivary and lacrimal glands (exocrine glands)

May be a secondary complication to pre-existing disorders like...

RA, SKE, polymyositis, scleroderma

Classic Patient

Middle-aged females

Clinical Features

Mucus membranes most affected. Parotid glands might be enlarged.



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Sjogren's Syndrome (cont)

Characteristic features of primary Sjogren's

Dry mouth (xerostomia) + dry eyes
(serophthalmia or keratoconjunctivitis)

Lab Studies

RF in 70% of cases, ANA in 60%, anti-Ro
Abs in 60%, anti-La in 40%. Schirmer's tear
test wetting of <5mm of filter paper in lower
eyelid in 5min = + for decreased secretions

How to confirm lymphocytic infiltrate and gland
fibrosis

Lip bx

Treatment

Mainly symptomatic management, goal of
keeping mycosal surfaces moist. Can give
artificial tears and saliva, increased oral fluid
intake, and lubricants for eyes/vagina.
Pilocarpine may increase saliva flow

Childhood-onset idiopathic arthritis

Definition

Characterized by chronic synovitis and
extra-articular manifestations (fever, rash,
weight loss)

Typical Patient

F > M, at age 1-3yo (males older 8-12yo)

Forms of arthritis

Pauciarticular (50%) polyarticular (35%),
systemic (15%)

Systemic (JRA) clinical features

Spiking fevers, myalgias, salmon-pink
maculopapular rash in evening.
Hepatosplenomegaly, lymphadenopathy,
leukocytosis, pericarditis, myocarditis

Pauciarticular clinical features

4 or less medium to large joints. Also at risk
for asymptomatic uveitis (can lead to
blindness if +ANA)

Childhood-onset idiopathic arthritis (cont)

Polyarticular clinical features

Resembles adult RA, symmetri, 5+ joints.
Systemic sx: low-grade fever, fatigue,
rheumatoid nodules, anemia.

Treatment

PT + NSAIDs

Psoriatic Arthritis

Definition

An inflammatory arthritis with skin
involvement usually preceding joint disease

Clinical features

Symmetric, hands and feet. Affects few
joints. Pitting of nails and onycholysis.
"Sausage-finger" appearance

Lab Studies

ESR elevated, hyperuricemia if severe skin
involvement, "pencil in a cup" deformity on
x-ray

Treatment

NSAIDs, MTX, reconstructive surgery as
last resort

Pseudogout

Definition

Intra-articular deposition of calcium
pyrophosphate dehydrate (CPPD) in
peripheral joints

Acute presentations mimic...

Gout (may be recurrent and abrupt)

Clinical features

Painful inflammation (when crystals shed
into joint), most common in
knees/wrist/elbow

Lab Studies

Rhomboid-shaped CPPD crystals,
negatively birefringent. Will see
chondrocalcinosis in radiographs (fine, linear
calcifications)

Treatment

NSAIDs, colchicine, and intra-articular
steroid injections

Polymyositis

Definition

An inflammatory disease of striated muscle
affecting the proximal limbs/neck/pharynx
(skin can also be
affected=dermatomyositis)

Etiology

Unknown, but strong association with occult
malignancy

Classic patient

F > M

Clinical Features

Insidious painless proximal muscle
weakness, dysphagia, skin rash (malar or
heliotrope), polyarthralgias, muscle atrophy

Lab Studies

CPK and aldolase elevated. Muscle bx will
show myopathic inflammatory changes

Treatment

High-dose steroids, MTX, or azathioprine

Scleroderma (Systemic Sclerosis)

Definitions

Characterized by deposition of collagen in
the skin, and also lungs, kidney, heart
stomach. Unknown etiology.

Classic Patient

F > M, 30-50yo

Clinical Features in general

95% of patients have skin involvement,
starts with swelling of fingers and hands,
may spread to trunk and face. R

Clinical Features: Limited

Mostly affects skin of face, neck, distal
elbows and knees. Causes pulmonary
hypertension later in disease.

Clinical Features: Diffuse

Affects the skin plus the heart, lungs, GI
tract, kidneys



Scleroderma (Systemic Sclerosis) (cont)

CREST Syndrome (associated with limited scleroderma)

Calcinosis, Raynaud's, esophageal dysfunction, sclerodactyly, telangiectasias

Initial presentation

Skin changes, polyarthralgias, esophageal dysfunction

Lab Studies

+ANA in 90% of pts, +anticentromere Ab assoc. w/ limited scleroderma, watch for HTN

Treatment

No cure. Treat specific manifestations of disease (ie PPIs for GERD, ACEIs for renal dz, avoid triggers, and immunosuppressives for pulmonary HTN)

Septic (Infectious) Arthritis

Definition

The hematogenous spread of bacteremia infection (osteomyelitis) caused by diagnostic or therapeutic procedure (injection) or infection elsewhere (cellulitis, bursitis)

Classic joint

Single joint, usually knee (can also be hip, shoulder, ankle)

Most common pathogen

Staph. aureus

Pathogen in sexually-active young adults

Neisseria gonorrhoea

Clinical Presentation

Acute swelling, fever, joint warmth and effusion, tenderness to palpation, increased pain w/ minimal ROM

Lab Studies

Collect/aspirate synovial fluid, many will also have a positive blood culture.

Septic (Infectious) Arthritis (cont)

Treatment

Aggressive IV Abx followed by oral antibiotics, sometimes arthroscopy and arthrocentesis are required.

Reactive Arthritis (Reiter Syndrome)

Definition

A seronegative arthritis that has a tetrad of: urethritis, conjunctivitis, oligoarthritis, and mucosal ulcers (leading cause of nontraumatic monoarthritis)

Can be seen as a sequelae to...

STDs or gastroenteritis

Clinical Features

Asymmetric arthritis in large joints below the waist (knee, ankle), mucocutaneous lesions (balanitis, stomatitis), urethritis, conjunctivitis

Typical patient

M > F after STDs (1:1 ratio after enteric infx)

Lab Studies

Up to 80% HLA-B27+, synovial fluid negative culture

Treatment

PT + NSAIDs. Abx can reduce chance of developing disorder, but they don't alleviate sx of the reactive arthritis

SLE (Systemic Lupus Erythematosus)

Definition

An autoimmune disorder characterized by inflammation, plus +ANA, and involvement of multiple organs

Classic Patient

Women of childbearing age, and more in African-American women

SLE (Systemic Lupus Erythematosus) (cont)

Clinical Features

(4+ criteria including high ANA): malar rash, discoid rash, photosensitivity, oral ulcers, arthritis, serositis, renal dz, ANA, hematologic/immunologic/neurologic disorders

What must be ruled out?

Drug-induced lupus/lupus-like syndrome (from INH, hydralazine, quinidine). Usually pt. will have positive antihistone Abs

Lab Studies

Get CBC BUN, Cr, U/A, ESR, serum complement (C3 or C4), anti-Smith antibodies to mark for progression. ANA is present 99% of the time, but low titers have a low predictive value.

Treatment

Exercise + sun protection, NSAIDs, Antimalarials (hydroxychloroquine), corticosteroids, MTX

Polyarteritis Nodosa

Definition

Small/medium artery inflammation involving the skin, kidney, peripheral nerves, muscles, and gut

Classic patient

M > F, 40-60yo, Hep B pts

Etiology

Unknown (concurrent in Hep B pts. 30% of the time)

Clinical Features

Fever, anorexia, weight loss, abdominal pain, peripheral neuropathy, arthralgias, arthritis, skin lesions. If renal involvement: HTN, edema, oliguria, uremia (if renal involvement).

Lab Studies

Vessel bx or angiography to diagnose (might also see ANCA, elevated ESR and CRP)



Polyarteritis Nodosa (cont)

Treatment

High-dose corticosteroids, cytotoxic drugs, immunotherapy.
Might need to also treat for Hep B. Treat HTN if present

Fibromyalgia Syndrome

Definition

A central pain disorder; cause and pathogenesis are poorly understood

Can occur concurrently with...

RA, SLE, Sjogren's

Clinical Features

Nonarticular MSK aches, fatigue, sleep disturbance, multiple tender points on exam, anxiety, depression, headaches, irritable bowel syndrome, dysmenorrhea, paresthesias

Lab Studies

Diagnosis of exclusion, must r/o hormonal and vitamin disturbances. Sometimes abnormalities of T-cell subsets

Treatment

SSRIs, SSNRIs, RCAs. Lyrica is only FDA-approved drug to specifically treat fibromyalgia. Aerobic exercise, stress reduction, and sleep assistance are helpful.



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