MSK I: Arthritis/Rheum Cheat Sheet

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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 througout 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 actibity, 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/heart

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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Published 12th August, 2014.
Last updated 22nd August, 2014.

Sjogren's Syndrome (cont)

Characteristic features of primary Sjogren's

Dry mouth (xerostomia) + dry eyes (seropthalmia 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 rashin evening. Hepatosplenomegaly, lymphadenopathy, leukocytosis, pericarditis, myocarditis

Pauciarticular clinical features

4 or less medium to large joints. Also at risk for asymptommatic 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 abrubt)

Clinical features

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

Lab Studies

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

Treatment

NSAIDS, colchicine, and intra-articular steroid injections

Polymyosotis

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

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Published 12th August, 2014.
Last updated 22nd August, 2014.

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, aboid 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 gonorrhea*

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 arthrotomy 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 sequele 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 Erythematous)

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 Erythematous) (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

Clinicla 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.