PEDIATRIC RHEUMATOLOGY:A PRIMARY CARE PERSPECTIVE

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PEDIATRIC RHEUMATOLGY I

I have no personal or financial conflicts of interest involving this presentation.

I WILL BE discussing some treatments that are not FDA approved.

OBJECTIVES

- INTRODUCE THE LEARNER TO COMMON PEDIATRIC RHEUMATOLOGICAL PROCESSES.
- DISCUSS COMMON CLINICAL PRESENTATIONS AND APPROPRIATE EVALUATION
- UNDERSTAND GENERALIZED TREATMENT APPROACHES FOR TREATMENT OF ABOVE.

JUVENILE IDIOPATHIC ARTHRITIS

- Confusing because of various nomenclatures and confusion with adult specific disease processes.
- Some overlap and imperfect classification.
- New classification is based on the 1997 International League of Associations for the Rheumatology (ILAR)
- Terms “Juvenile Rheumatoid Arthritis” and “Juvenile Chronic Arthritis” where abandoned.
- The new term Juvenile Idiopathic Arthritis (JIA) was adopted.

JUVENILE IDIOPATHIC ARTHRITIS

- Occurring before the age of 16 y/o.
- Involving Persistent Synovitis in one or more joints.
- Synovitis for at least 6 weeks.

JUVENILE IDIOPATHIC ARTHRITIS

- OLIGOARTICULAR
- POLYARTICULAR- RHEUMATOID FACTOR POSITIVE
- POLYARTICULAR –RHEUMATOID FACTOR NEGATIVE
- JUVENILE PSORIATIC ARTHRITIS
- ENTHESITIS-RELATED ARTHROPATHIES
- UNDIFFERENTIATEDJIA
- SYSTEMIC JIA

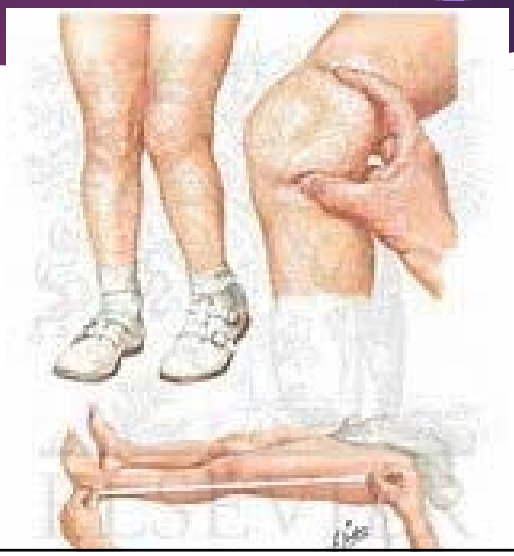
OLIGOARTICULAR JIA

- Four or fewer joints during the first 6 months.
- 1-7 years of age
- F:M 3:1
- Uveitis F:M 6.5:1
- Typically involves incidental joint swelling or limp
- Knee>ankle>elbow>wrists
- Fever, rash, and night pain typically do not occur

OLIGOARTICULAR JIA

- Persistent- only 4 or fewer joints throughout the course of the disease
- Extended- Initially develops 4 or fewer joints but other joint involvement after 6 months

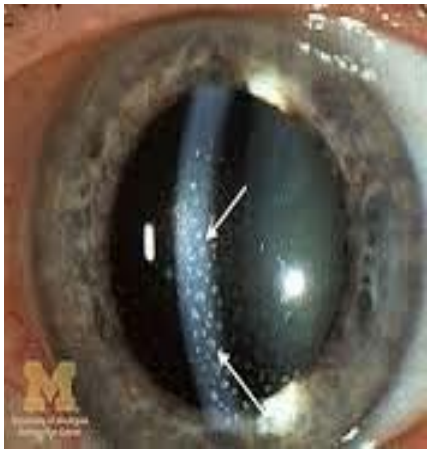
OLIGOARTICULAR JIA



OLIGOARTICULAR JIA

- UVEITIS is most commonly associated with this form of JIA
- Typically asymptomatic but if not diagnosed and treated appropriately can result in cataracts, glaucoma and blindness
- ANA status is determined strictly to determine risk of Uveitis and determine frequency of slit lamp examination
- High risk factors include positive ANA, female sex, age at onset less than 6 years old, and duration of disease less than 4 years

OLIGOARTICULAR JIA



OLIGOARTICULAR JIA

- If ANA positive, less than 6y/o at diagnosis and duration less than 4 years then needs eye exam every 3 months.
- If ANA positive, age at onset less than 6 y/o and duration of disease greater than 4 years then check every 6 months.
- If ANA positive, age at onset less than 6 y/o and duration of disease >7 years then check every 12 months.
- If ANA positive, age at onset greater than 6y/o and duration less than 4 years then check every 6 months.
- If ANA positive , age at onset greater than 6 y/o and duration more than 4 years then check every 12 months.

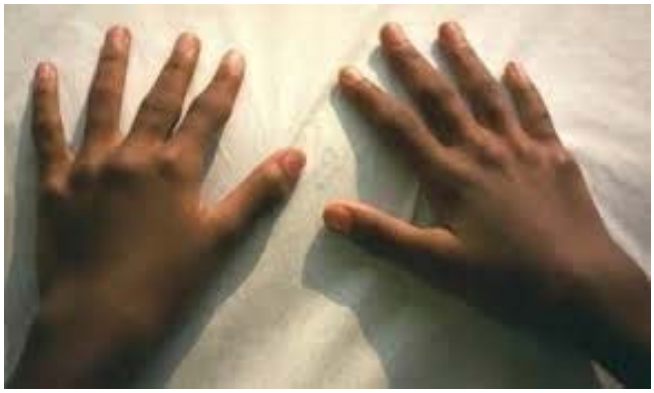
OLIGOARTICULAR JIA

- Treatment usually involves joint injections and NSAIDS.
- Occasionally requires Disease Modifying Rheumatological Diseases (DMRDs) or biologics.
- Pts will often out grow this disease.
- Continue eye exams even if arthritis is quiet.

POLYARTICULAR JIA

- Rheumatoid Factor Negative- peaks at 1-3 y/o and at 10 y/o.
- Rheumatoid Factor Positive- More common in teens. Probably early onset of Adult type Rheumatoid Arthritis.
- Uveitis only in 10-15% of ANA positive. Needs eye exams every 6 months.
- Typically do require DMRD and often times biologic.

POLYARTICULAR JIA



PSORIATIC ARTHRITIS

- Arthritis and psoriasis
- Arthritis and at least two of the following:
  - Dactylitis
  - Nail pitting or oil spots or onycholysis
  - Family history of psoriasis in at least one 1st degree relative

PSORIATIC ARTHRITIS

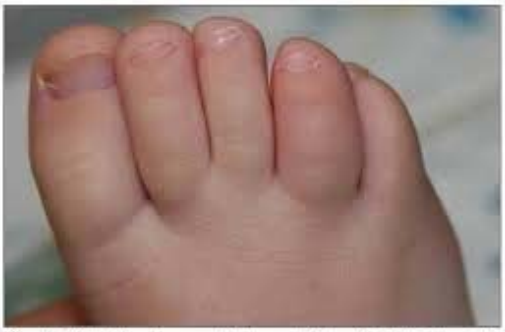
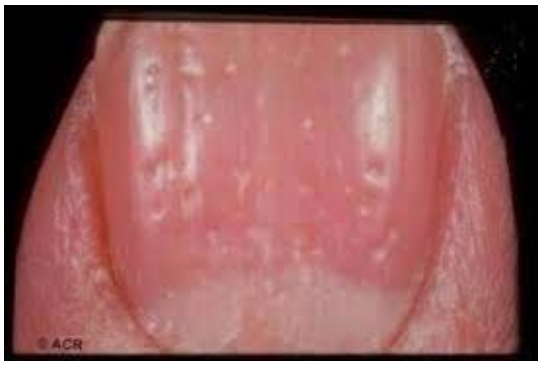
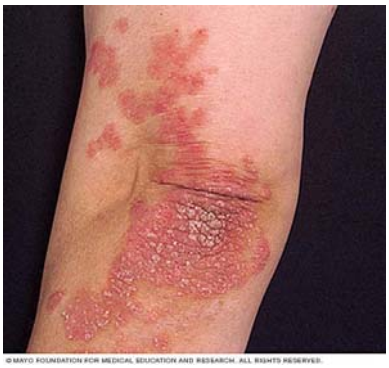


Figure 2 – *Dactylitis, or "sausage digit," is seen in the toes of a child with psoriatic juvenile idiopathic arthritis.*

PSORIATIC ARTHRITIS



PSORIATIC ARTHRITIS



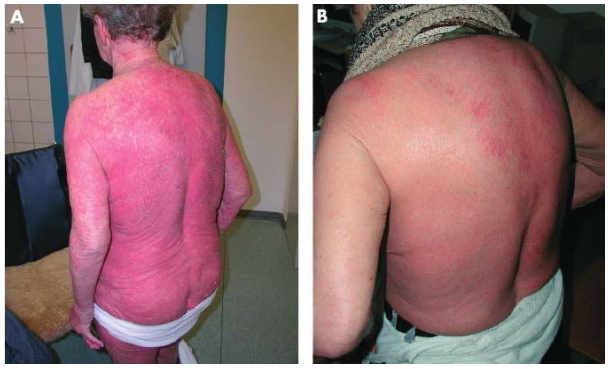
PSORIATIC ARTHRITIS

- About 20% of Pts with Psoriasis develop arthritis.
- Arthritis can proceed Psoriasis by months to years.
- Uveitis and positive ANA in 30-50% of Pts.
- DIP involvement can occur.

PSORIATIC ARTHRITIS

- Almost all these Pts will require Methotrexate.
- Many will require biologics.
- Topical Steroids are safe but be careful with systemic steroids.
- Systemic Steroids can induce erythroderma.

PSORIATIC ARTHRITIS



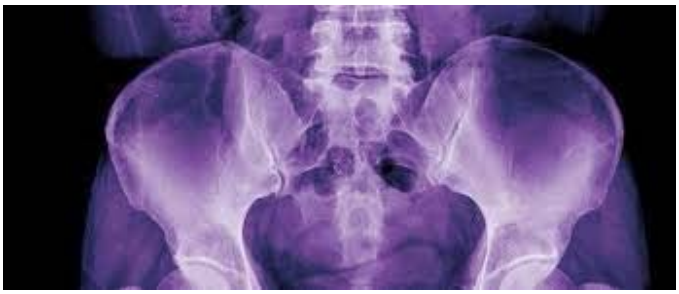
ENTHESITIS-RELATED ARTHRITIS

- Presence or history of SI joint tenderness and /or inflammatory lumbosacral pain
- HLA –B27 Antigen Positive
- Male >6 years of age
- Associated Uveitis
- 1st Degree relative with Ankylosing Spondylitis, Enthesitis-Related Arthropathy, SI with IBD, or Reactive Arthritis

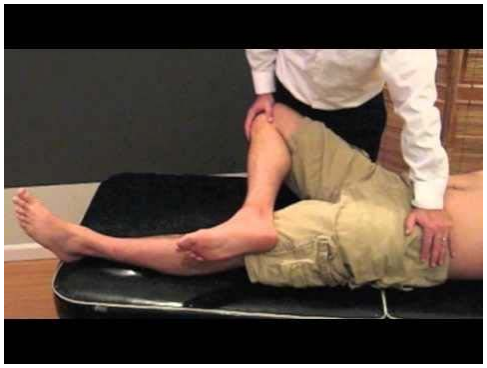
ENTHESITIS-RELATED ARTHRITIS

- 25% of Enthesitis –Related Arthritis Pts are HLA-B27 Negative
- Most People with HAL-B27 Antigen do NOT have Enthesitis-Related Arthritis
- Older, male children
- Familial 10-20% of the time
- Worse after rest
- Peripheral Arthritis
- Sacroiliac Pain

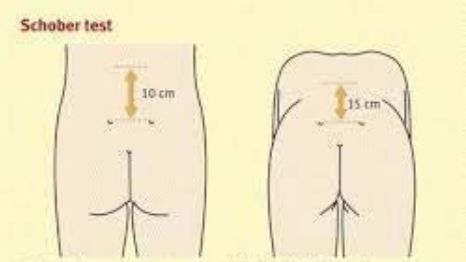
ENTHESITIS-RELATED ARTHRITIS



ENTHESITIS-RELATED ARTHROPATHIES



ENTHESITIS-RELATED ARTHROPATHIES



The Schober test detects reduced flexion. With the patient standing, mark the skin overlying the fifth lumbar spinous process (usually at the level of the posterior superior iliac spine or the dimple of Venus) and also 10 cm above. On forward flexion, this should increase to >15 cm.

ENTHESITIS-RELATED ARTHROPATHIES

- Peripheral arthritis will respond to NSAIDs, Steroids, DMRDs.
- Axial Symptoms typically axial symptoms require biologic.
- Increased activity and PT is critical

UNDIFFERENTIATED JIA

- ARTHRITIS ASSOCIATED WITH INFLAMMATORY BOWEL DISEASE
- REACTIVE ARTHRITIS

ARTHRITIS ASSOCIATED WITH INFLAMMATORY BOWEL DISEASE

- 25% of Pts with IBD
- PERIPHERAL ARTHRITIS
- AXIAL ARTHRITIS

PERIPHERAL IBD ARTHRITIS

- Arthritis flares are correlated with GI flares
- M=F
- NOT ASSOCIATED WITH HLA-B27

AXIAL IBD ARTHRITIS

- Spine, hips, SI joints
- M>>F
- ASSOCIATED WITH HLA-B27
- Independent of GI flares

REACTIVE ARTHRITIS

- Associated with GI or GU infections
- Yersinia, Shigella, Salmonella, Campylobacter
- Chlamydia or Mycoplasma
- May be associated with oral and genital ulcers, and popular skinlesions.
- Enthesitis and dactylitis
- Large weight bearing joints
- Treat active infection
- Start with NSAIDs, may require Methotrexate, sulfasalazine or biologics

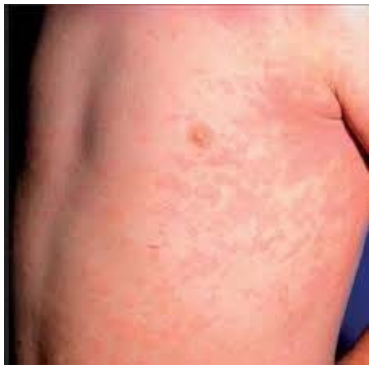
SYSTEMIC JIA (STILL'S DISEASE)

- Not truly a JIA but more closely related to recurrent fever syndromes
- Autoinflammatory (Intrinsic Immune System) vs Autoimmune (Adaptive Immune System)
- M=F
- Peak Age 5-10 years old
- Fever is always present and usually quotidian
- Toxic appearing during fever but can appear normal when afebrile

SYSTEMIC JIA (STILL'S DISEASE)

- Migratory rash, often with the fever
- Macular, pink to salmon color
- May be pruritic
- Koebner's Phenomenon

SYSTEMIC JIA (STILL'S DISEASE)



SYSTEMIC JIA (STILL'S DISEASE)

- Synovitis-may be delayed for weeks or months
- Myalgia-CPK usually normal but aldolase can be elevated
- Pericarditis and myocarditis
- Serositis
- Lymphadenopathy
- Hepatosplenomegaly
- Abdominal Pain
- Weight loss and fatigue

SYSTEMIC JIA (STILL'S DISEASE)

- WBC typically high 10s to 40 or 50K
- PLTs typically 400K or higher
- Normocytic, normochromic anemia
- Elevated Ferritin
- Elevated CRP and ESR

SYSTEMIC JIA (STILL'S DISEASE)

- Diagnosis of exclusion
- R/O Infectious Processes
- R/O Leukemia/Lymphoma (Peripheral Smear, LDH, UA)
- R/O Kawasaki's Dz

SYSTEMIC JIA (STILL'S DISEASE)

- Treatment includes NSAIDs, Steroids, Methotrexate
- Does not respond well to TNF antagonists
- Responds well to IL-1 (Anakinra, Ilaris) and IL-6 Antagonist (Actemra)
- Risk of progressing to Macrophage Activation Syndrome which can be fatal

MACROPHAGE ACTIVATION SYNDROME (MAS)

- A progressive inflammatory response in which the inhibitors of inflammation are not adequately controlling the inflammatory system.
- Leads to depletion to NK Cell and a "Cytokine Storm"
- Very similar to Hemophagocytic Lymphocytic Histiocytosis (HLH)
- HLH is a genetic defect in counter inflammatory regulators-typically occurs in younger Pts and usually requires Bone Marrow Transplant for cure

MACROPHAGE ACTIVATION SYNDROME (MAS)

- Can be caused by infections process'- EBV, Rickettsial Dz, Gram negative sepsis
- Leukemia/Lymphoma
- Immunodeficiency
- Rheumatologic Processes-Typically Still's Disease but also Systemic Lupus Erythematosus

MACROPHAGE ACTIVATION SYNDROME (MAS)

- Results in high fever
- Rash
- HSM
- LAD
- Elevated LFTs
- DIC
- ARDS
- AKI

MACROPHAGE ACTIVATION SYNDROME (MAS)

- Ferritin is typically high, often above 10,000
- CRP is high but ESR can be low (secondary to depletion of fibrinogen)
- Cytopenia of WBCs and PLTs (be wary of a sudden drop of either)

MACROPHAGE ACTIVATION SYNDROME (MAS)

- Treat the underlying cause
- Steroids
- Methotrexate
- IL-1 Inhibitor Anakinra

SYSTEMIC LUPUS ERYTHEMATOSIS

SYSTEMIC LUPUS ERYTHEMATOSIS

- A chronic inflammatory disease affecting the skin, kidneys, lungs, nervous system, serous membranes and other organs.
- Involves excessive activation of the Innate Immune System.
- Involves excessive activation of the adaptive immune system including both the humoral and cell mediated pathways.

SYSTEMIC LUPUS ERYTHEMATOSIS

- Clear Genetic Component- concordance rate of 14-57% in monozygotic twins.
- Hormonal Factors Prepubertal F: M ratio 3.1 while post puberty that Ratio increases to 7-15:1
- X Chromosome Factors-

XXY (Klinefelter's) 14 fold increase

XO (Turner's) significantly lower rate

SYSTEMIC LUPUS ERYTHEMATOSIS

- Infectious Triggers EBV and CMV most notable
- UV light exposure

SYSTEMIC LUPUS ERYTHEMATOSIS

- Much more common in Americans of Asian, African, or Hispanic Descent
- Overall Prevalence is 1-2/1,000
- 18-20% Diagnosed before the age of 18

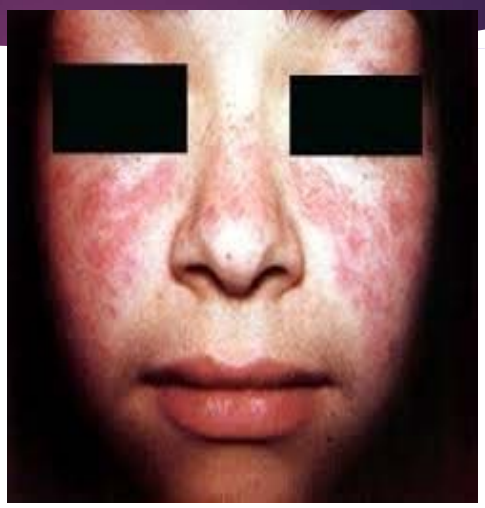
SYSTEMIC LUPUS ERYTHEMATOSIS

- HEMATOLOGIC
  - Anemia Chronic Inflammation
  - Hemolytic Anemia
  - Thrombocytopenia
  - Leukopenia-especially lymphopenia
  - Coagulopathies

SYSTEMIC LUPUS ERYTHEMATOSIS

- MUCOCUTANEOUS CHANGES
  - Malar Rash
  - Oral Ulcers
  - Nasal Ulcers
  - Photosensitivity
  - Alopecia

SYSTEMIC LUPUS ERYTHEMATOSIS



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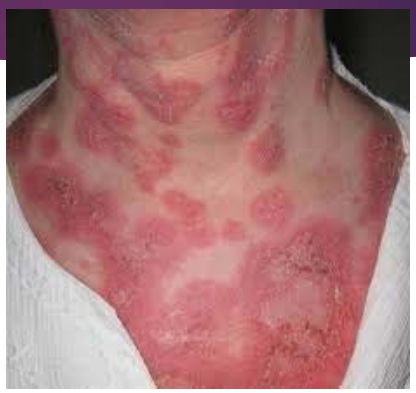

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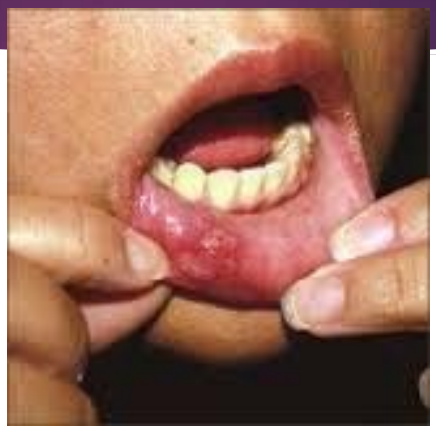


SYSTEMIC LUPUS ERYTHEMATOSIS

SYSTEMIC LUPUS ERYTHEMATOSIS

- MUSCULOSKELETAL INVOLVEMENT
  - Arthritis
  - Arthralgia
  - Osteopenia

SYSTEMIC LUPUS ERYTHEMATOSIS

- FEVER-
  - If Greater than 38.6 or associated with chills
  - consider infectious until proven otherwise

SYSTEMIC LUPUS ERYTHEMATOSIS

- NEUROLOGIC
  - Depression
  - Headaches
  - Seizures
  - Peripheral Neuropathy

SYSTEMIC LUPUS ERYTHEMATOSIS

- RENAL DISEASE
  - 27 percent of children with SLE
  - Class of Disease based on renal biopsy
  - Class I- VI
  - Class III and IV require aggressive immunosuppression
  - Class V requires Mycophenolate

SYSTEMIC LUPUS ERYTHEMATOSIS

- PULMONARY
  - Pneumonitis
  - Plevritis
  - Pulmonary Hemorrhage
  - Pulmonary HTN
  - "Shrinking Lung Syndrome"

SYSTEMIC LUPUS ERYTHEMATOSIS

- CARDIAC
  - Pericarditis
  - Valvular Disease
  - Myocarditis
  - Increased Risk for future CAD

SYSTEMIC LUPUS ERYTHEMATOSIS

- EVALUATION:

CBC/Peripheral Smear

CMP- elevated liver enzymes, Increased BUN/Cr

C3 and C4- both decreased in active Dz

UA- can see proteinuria, pyuria, hematuria

Urine Pr: Cr Ratio

Blood Cultures if Febrile

SYSTEMIC LUPUS ERYTHEMATOSIS

- What about an ANA?
- If ANA positive will need further check with

Extractable Nuclear Antigens (ENA) and Anti

DS DNA

SYSTEMIC LUPUS ERYTHEMATOSIS

- Anti-DS ANA >97% Specific for SLE
- Anti-Smith >95 % Specific for SLE
- Anti-Ro and Anti-Ro associated with Neonatal Lupus as well as congenital heart block

SYSTEMIC LUPUS ERYTHEMATOSIS

- Chest Xray
- +/- Echo
- Amylase/Lipase, abdominal imaging if abdominal pain

SYSTEMIC LUPUS ERYTHEMATOSIS

- Steroids
- Hydroxychloroquine
- Mycophenolate
- Methotrexate
- Tacrolimus
- Rituximab
- Cyclophosphamide

KAWASAKI DISEASE

- A vasculitis involving medium sized arteries which if untreated can result in aneurysms of the coronary arteries and early onset myocardial infarction in children or young adults.
- Associated with fever, nonexudative conjunctivitis, mucositis, rash, edema of the hands and feet and lymphadenopathy

KAWASAKI DISEASE

- Bilateral bulbar conjunctival injection (dry) can also involve anterior uveitis
- Oral mucous membrane changes including cracked lips, injected pharynx or stawberry tongue
- Peripheral erythema and/or edema of the hands and feet

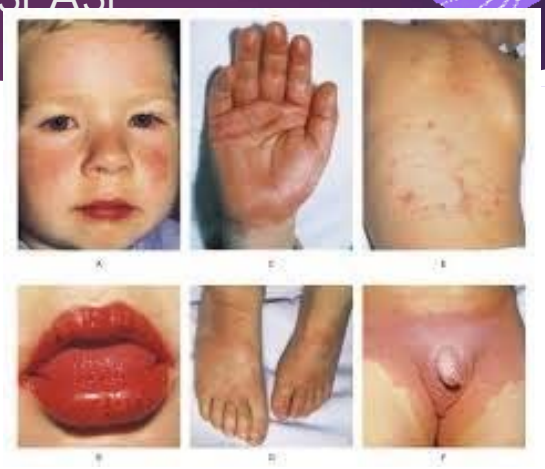
KAWASAKI DISEASE

- Polymorphous rash
- Cervical lymphadenopathy-at least 1.5cm in diameter, usually unilateral

KAWASAKI DISEASE

KAWASAKI DISEASE

KAWASAKI DISEASE



KAWASAKI DISEASE

- CBC-Leukocytosis and thrombocytosis
- Elevated AST/ALT
- Elevated CRP and ESR
- Urinalysis- sterile pyuria. Remember that the source of this is urethral so may miss with catheterized sample. Inflammatory Cells are not neutrophils so leukocyte esterase will be negative

KAWASAKI DISEASE

- Echo
- Ultrasound

KAWASAKI DISEASE

- IVIG and Aspirin
- High Dose Solumedrol
- Remicade

JUVENILE DERMATOMYOSITIS

- An autoimmune disease associate with T-cell infiltration of skeletal muscles and vasculitis
- Similar to the adult form of Dermatomyositis but JDM does not have an association with increase risk of occult neoplasia
- Variants include Amyopathic JDM and Polymyositis

JUVENILE DERMATOMYOSITIS

- Typical presentation includes a history increasing proximal weakness
- Typical Rash including:

Heliotropic Rash

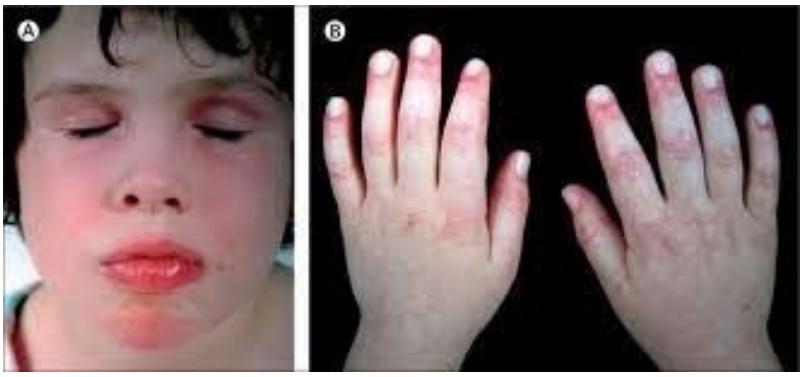
Shawl Sign

V Sign

Gottron's Papules

Capillary Drop Out

JUVENILE DERMATOMYOSITIS



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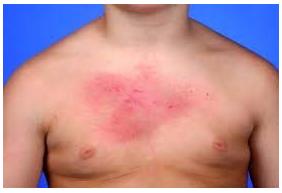

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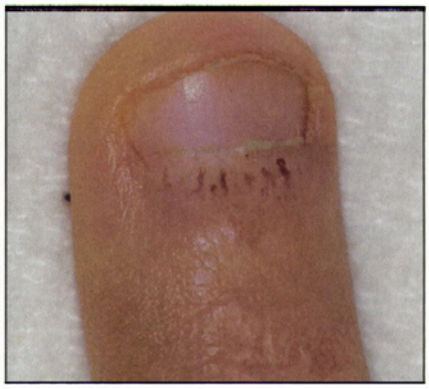


Figure 2. Nailfold capillary abnormalities in a child with juvenile dermatomyositis. Note the abnormally large, dilated capillary loops that are abnormally few in number because neighboring loops have been obliterated ("capillary dropout"). There is also mild cuticular hypertrophy.

JUVENILE DERMATOMYOSITIS

- Climbing Stairs
- Getting up from the chair or toilet
- Combing or fixing their hair
- Problems swallowing
- Voice change

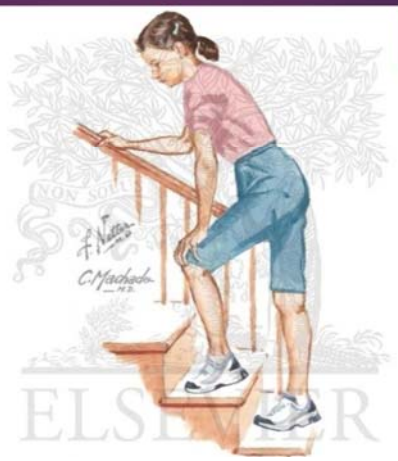
JUVENILE DERMATOMYOSITIS

- CPK
- Aldolase
- LDH
- Von Willebrand's level
- Remember that AST and ALT are also muscle enzymes

JUVENILE DERMATOMYOSITIS

- Treatment includes steroids, methotrexate, IVIG, Mycophenolate
- Rule of 1/3rds

1/3 Remission without relapse
1/3 with Remission but subsequently relapse
1/3 Improvement in inflammation but never go into remission



HENOCH-SCHONLEIN PURPURA

- Also known as Ig A vasculitis
- Most common vasculitis in childhood
- Typically occurs in children between 3 and 15 years old
- Disease in older patients associated with more severe disease and an increased risk of renal disease

HENOCH-SCHONLEIN PURPURA

- Skin
- Joints
- GI Tract
- Kidney
- Brain

HENOCH-SCHONLEIN PURPURA

HENOCH-SCHONLEIN PURPURA

- CBC
- PT/PTT/INR
- UA including Urine Pr:Cr Ratio

HENOCH-SCHONLEIN PURPURA

DDX:

Sepsis including meningiococcus and Strep pneumo

Rickettsial Disease

Coagulopathy

Non accidental Trauma

Other vasculitis

HENOCH-SCHONLEIN PURPURA

Treatment:

NSAIDs-Consider COX-2 specific or adding PPI

Steroids-Risk of relapse if course is too short

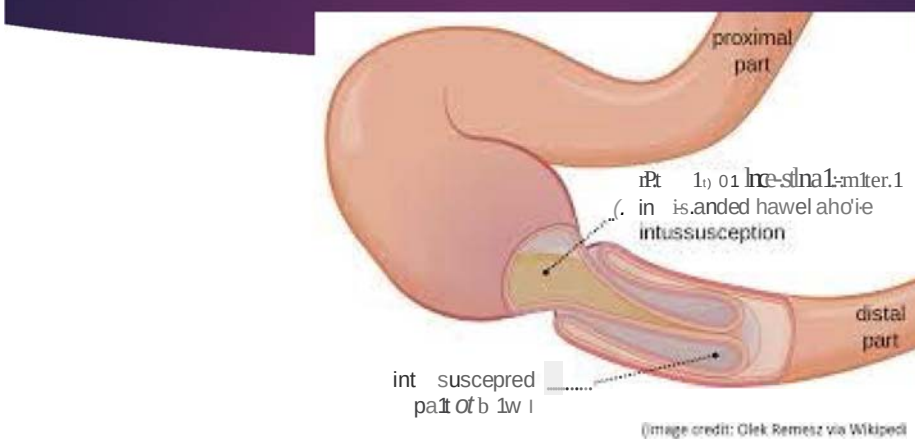
HENOCH-SCHONLEIN PURPURA

Complications:

Intussusception

Chronic Renal Disease

Relapse



HENOCH-SCHONLEIN PURPURA

- Uncertain of the diagnosis
- Severe abdominal pain or significant GI bleeding
- Debilitating Pain

FIBROMYALGIA

- A syndrome of chronic pain associated with poor sleep, cognitive dysfunction, and deconditioning

FIBROMYALGIA-ETIOLOGY

- Not an inflammatory lesion
- Thought to be related to a central processing disorder
- Related to sleep disturbances
- Some evidence of small fiber disorder

FIBROMYALGIA-ETIOLOGY

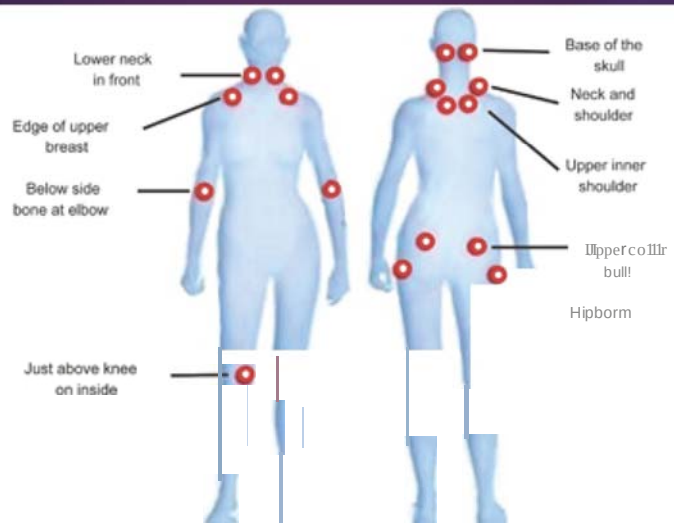
- Functional scans show completely different brain activity response in those with FM and those without in response to both painful and non painful stimuli
- Increased sensitivity to "non painful stimuli"
- Increased Substance P in CSF
- Evidence of derangement in endogenous opioid response

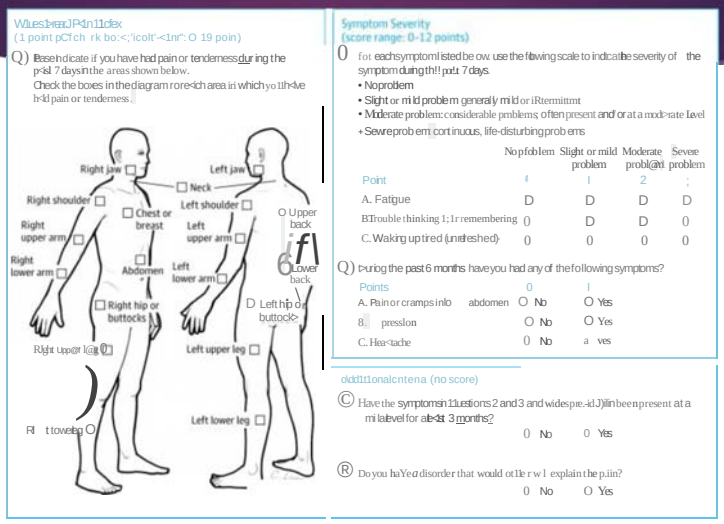
FIBROMYALGIA-ETIOLOGY

- Skin biopsies show decreased numbers of small nerve fibers

Table 1 Criteria for Dia nosing Fibromialgia

1990 ACR Criteria[2]	2010 ACR Criteria[1]
1. Widespread Pain for at least three months Above and bebw the waist Both sides of the body 2. Pain on palpation of 11 of 18 tender points	1 Widespread Pain Index (WPI) score 7 (0-19) 19 anatomical locations Shoulder: left, right Upper arm left, right Lower arm left, right Jaw: left, right Neck Buttock, hip trochanter: left, right Upper leg: left, right Lower leg left, right Upper back Lower back Chest Abdomen 2. Symptom Severity Scale S (0-12) A. Presence and severity (0-3) of fatigue, cognitive symptoms. waking unrefreshed B. General presence of somatic symptoms 0: no symptoms 1: few symptoms 2: a moderate number of symptoms 3: a great deal of symptoms 3. Exclusion of other medical conditions that could account for pain *Symptom severity scale -;..9 and WPI 3 to 6 are also acceptable





W1ues1>reaJP4n11cfex
(1 point pCTch rk bo:<,'icolt'-<1nr": O 19 poin)

Q) Pease indicate if you have had pain or tenderness during the p<sl 7 days in the areas shown below.
Check the boxes in the diagram rore<ich area iri which yo 1h<ve h<ld pain or tenderness.

Right jaw
Left jaw
Neck
Right shoulder
Left shoulder
Chest or breast
O Upper back
Right upper arm
Left upper arm
Right lower arm
Abdomen
Left lower arm
Lower back
Right hip or buttocks
D Left hip o buttock>
Left upper leg
Left lower leg

Symptom Severity
(score range: 0-12 points)

0 fot each symptom listed be ow. use the fo lowing scale to indicate the severity of the symptom during th!! pa t 7 days.
• No problem
• Slight or mild problem generally mild or iRtermittmt
• Moderate problem: considerable pmblems; often present and/or at a mod>rate Level
• Sewre prob em; cont inuous, life-disturbing prob ems

	No p fob lem	Slight or mild problem	Moderate probl@m	Severe problem
Point	4	I	2	;
A. Fatigue	D	D	D	D
BTrouble thinking 1; 1r remembering	0	D	D	0
C. Waking up tired (unrefreshed)	0	0	0	0

Q) t>uriog the past 6 months have you had any of the following symptoms?

Points	0	I
A. Pain or cramps in lo abdomen	O No	O Yes
8. presslon	O No	O Yes
C. Hea<tache	0 No	a ves

oddi1 1onalcntena (no score)

© Have the symptoms in 11uestions 2 and 3 and wides pre.-id J)ilin been present at a mi la level for a b<st 3 months?
0 No 0 Yes

® Do you haYe a disorder that would ot1e r w l explain the p.iin?
0 No O Yes

FIBROMYALGIA

- Not an inflammatory disease
- Most likely a neuropathic disease involving both CNS and PNS
- Genetic Predisposition
- Clearly associated with environmental factors

EPIDEMIOLGY

- Worldwide the prevalence is felt to be between 1.5-2.5%
- Increases in frequency in age-approx 4% in older patients
- Prevalence 1% In Pediatric Patients
- Prevalence is consistent regardless of economic status of the country
- Prevalence can ranges between 20-40% of primary care patients
- Can be seen in 20-40% of Pts with RA, SLE “Secondary Fibromyalgia”
- Rate also increased with other chronic diseases –CKD, CHF, COPD

HX

- Length of time with symptom
- Disturbed sleep pattern
- Altered mental state-”FIBRO FOG”
- Fatigue
- Absence of joint swelling- sometimes subjective swelling
- Absence of Fever

PE

- Absence of joint effuisions
- May have some enthesitis
- Poor posture
- Lack of dermatological findings
- Normal neurological exam except for subtle sensory findings

LAB

- No set of universal labs
- A reasonable approach

CBC

CMP

TSH

ESR/CRP

CPK

Celiac Disease

FIBROMYALGIA TX

- EDUCATION
- RECONDITIONING/EXERCISE
- PHARMACOLOGICAL

EDUCATION

- "Call it like your see it"
  Diagnosis is often relieving
  May be cost effective
  You have to have buy in to be successful

EXERCISE/RECONDITIONING

- Aerobic exercise most effective although strength training may help
- Start graduated and progressive program

SLEEP HYGIENE

- Same sleep/wake time
- Use an hour wind down time
- Repeat 20 minutes of wind down time if unable to go sleep
- If Pt has a bad night go ahead and get up at regular time
- May nap- no longer than 1 hour
- Avoid non sex or sleep activities in the bedroom

MEDICATIONS-What doesn't work

- Steroids
- Opioids**
- NSAIDs

MEDICATIONS –what does work

- Nortriptyline/Amitriptyline-helps the pain, also can improve sleep
- Duloxetine*
- Pregabalin*
- Milnacipran*
- Cyclobenzaprine
- SSRIs +/- TCAs
- Tramadol

* Approved by the FDA for the treatment of Fibromyalgia

ALTERNATIVE THERAPIES

- None proven in large studies
- Some small studies have shown improvement with Tai Chi, Stretching, chiropractic
- Acupuncture has been disappointing
- IF not harmful encourage Pt to try

FOLLOW UP

- Need to follow closely as relapse is common if Pts do not continue lifestyle changes
- Trigger point pain is not consistent in determining response
- Use severity scores, sleep quality, quality of life to determine response
- May be able to wean pharmacological interventions

WHEN TO REFER

- Dx and treatment is clearly in the realm of Primary Care Provider
- Unclear Diagnoses
- Complicated medication regimen
- Often times a single consult with return to PCP can be valuable

QUESTIONS

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