

PEDIATRIC LEG AND JOINT PAIN: GOING OUT ON A LIMB

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Disclosure

- No Financial Disclosures
- Cases are based on reality from our PED and expert reviews from out-of-state
- Leg pain scares me
- I will tell you why



Format



- Case-based presentations of actual cases from the past several years



Objectives

- The participant will review cases of children who presented to the ED with leg or joint pain.
- The audience will generate a list of differential diagnoses and design a strategy for appropriate evaluation.
- The practitioner will determine whether or not emergency intervention is warranted for the chief complaint and physical exam.

Sometimes Obvious Sometimes Not



ARTHRITIS (Leg/Joint Pain)

- AVASCULAR NECROSIS, EPIPHYSEAL DISORDERS
- REACTIVE, POSTINFECTIOUS ARTHRITIS
- TRAUMA
- HEMATOLOGIC/ ONCOLOGIC
- RICKETS/METABOLIC
- INFECTION
- TUMOR
- IDIOPATHIC PAIN SYNDROME
- SYSTEMIC RHEUMATOLOGIC DISEASES

Case 1



- 3 y/o AA female presents with fever to 104°F, headache and refusal to walk/leg pain
- Sick for 36 hours
- No sick contacts
- Hx of Kawasaki at 18 months, no sequelae
- Fully immunized
- VS: T 39.8 C HR 140 RR 28 BP 110/65

Physical

- Uncomfortable, dehydrated, febrile AA female
- HEENT: injected eyes, red, dry cracked lips, red tongue
- Chest: clear, no retractions
- Heart: tachycardic, no murmurs
- Abdomen: soft, non-tender, no HSM
- Extremities: refusal to bear weight, legs tender bilaterally
- Skin: flushed, no petechiae, no purpura



Differential?

Differential?

- Kawasaki Disease again!
- Sepsis
- SIRS
- Leukemia
- Bacteremia
- Septic Arthritis
- Osteomyelitis
- Rhabdomyolysis/ Influenza

Work-Up

- CBC with diff, BMP, CRP, ESR and CK
- Blood culture
- DFA
- iStat 8
- Peripheral IV
- Fluids
- UA/U Cx
- Acetaminophen/Ibuprofen

Admission

- Hydration
- Pain Management
- Observation
- DFA...Influenza B
- Next day eating Chinese Food
- Discharged home overtly improved
- Myalgias secondary to Influenza B, started on Oseltamivir

Case 2



- 16 year old cross country runner
- High School track star
- Runs about 15 miles/day!
- Presents to the Hasbro ED at 3 am with a 'leg cramp' (right calf area)
- Started earlier in the evening (felt tight) and now unbearable (9/10 pain)
- Came in by car

Physical

- A lean, athletic, Caucasian male
- T 37 HR 98 RR 24 BP 130/80
- He is very uncomfortable and complains of right lower leg pain/ calf area
- No swelling, no increased warmth, no rash, distal pulses 2+, cap refill <2 secs, sensation in tact
- Cannot bear weight 'hurts too much'
- Remainder of PE unremarkable
- Intervention?

Progression

- NSAIDs
- Little better but still 'tight'
- Muscle spasm, gave dose of diazepam
- Able to walk to the bathroom with a limp
- 9/10 pain then reported to be 5-6/10
- Was in the ED 4.5 hours
- Discharged home with advice to return if worse



MEDICO-LEGAL REVIEWS

Case 3

- A previously well 18 y/o W male asks to go to the ED with a CC of fever (40° C), leg pain and body aches and decreased level of activity for 4 hours.
- Vs: HR 108 RR 20 BP 106/59 T 39.6 Wt 78 kg
- A+O x 3
- Uncomfortable male with shaking chills and headache and nausea
- 8 mg Ondansetron, 800 mg of Ibuprofen, PO

Physical Exam



- Awake and alert, mildly dehydrated
- HEENT: no nuchal rigidity, no meningeal signs, subtle nasal congestion, dry lips
- Chest: clear BS bilaterally
- Cardiac: HR 112, S₁S₂, no murmurs
- Abdomen: no HSM, no rebound/guarding
- Extremities: cap refill <1 sec, warm and pink, pain in both legs
- Skin: no rash identified

Past Medical History

- No significant PMHx
- Social: HS Senior, quarterback of football team, popular, denies cigarettes, EtOH, drugs
- No hx of sexual activity
- College Athletic Scholarship
- Honors Student



Progression

- He drank some Gatorade® after the anti-emetic and Ibuprofen
- Reportedly said he felt better (smart phrases)
- Vs: HR 112 RR 20 BP 102/53 T38.8
- Discharged from the ED as 'Viral Syndrome'
Left needing assistance secondary to his body aches/leg pain
- Dad said he was 'walking like an old man'

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No mention in the body of medical record but labs revealed:

- WBC 18,000
- 78% polys, 18% bands
- Plts 140,000
- Na 134
- K 5.8
- Creatinine 1.4
- DFA negative

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Case 4

- 15 year old w male attending camp in New Haven
- Fell asleep on a chair with his left leg under him
- Awoke with pain in the left thigh
- History of fever to 102° F earlier that week
- Uncomfortable

Physical

- Well hydrated, well-developed
- Pain in the anterior thigh
- No rash, no soft tissue swelling
- Exquisitely tender
- X-ray
- Morphine sulfate x 3
- Orthopedics consult
- MRI, discharged 9 hrs later

Case 5 (Last week)

- 3 year old little boy who presented with left hip pain
- Hx of viral gastroenteritis 2-3 weeks earlier
- X-ray no fracture, no effusion appreciated
- CBC, ESR, CRP, from outside hospital
- Discharged home after NSAIDs
-Mom calls the ED 3 days later

Dr. Santucci

- ‘We were seen three days ago and Alex was diagnosed with toxic synovitis, now it spread to the other side’
- ‘How much longer do you think it will be before he can walk?’
- ‘Been 9 days!’
- ‘Hard to use his right arm to feed himself, that hurts too.’

Progression

- ‘Bring him back immediately’
- Lying on his right side
- Flexed at hips
- Not moving his legs
- Cannot bear weight
- Very pale, weak and ill-appearing
- Prepared the family for the worst



Differential

- Leukemia
- Spinal Cord Tumor
- Malignancy
- Guillain Barre
- Something else sinister.....



THANK YOU!