

Presented by:  
Mary Lloyd Ireland  
Professor  
Dept. of Orthopaedic Surgery and Sports Medicine  
University of Kentucky  
Lexington KY  
www.marylloydireland.com

0:00 Introduction

1:13 Knee Swelling in a 10-year-old, Traumatic or Atraumatic?

1:29 HPI

- 10-year-old Hispanic female presented with a right knee effusion. She had fallen onto her anterior knee 2 weeks ago while playing basketball, swelling began the next day. At her visit, pain had improved but swelling persisted. No prior knee injuries.

- Also had several swollen joints when she was much younger which resolved without treatment.

2:18 Past History

- No pertinent PMHx, FHx, SurgHx, SocHx
- ROS: WNL

2:26 Exam

GEN: Afebrile, NAD

MSK:

- Severe effusion to right knee
- ROM: 20-90
- Ligamentously stable
- 4/5 Quad strength

2:51 Radiographs

No fracture, open growth plates, suprapatellar effusion.

3:10 MRI

Very large joint effusion with synovial perforation. Synovial hypertrophy from intraarticular hemorrhage. No bony findings

4:03 Lab Results

- ANA: less than 1:80
- ESR: 22
- CBC, CMP, TSH, CRP, RF, anti-CCP: WNL

4:17 Questions?

5:23 DDx

- Juvenile Idiopathic Arthritis (JIA)
- Pigmented Villonodular Synovitis (PVNS)
- Septic Arthritis

- Osteochondral fracture
- OCD lesion
- Bleeding Diathesis (Hemophilia)
- Lipoma Arborescens

#### 6:18 Treatment

•Given 5+ months of effusion, MRI, bloody aspiration, planned for surgical evaluation

#### 7:20 Operative Findings

•Marked amount of synovitis in suprapatellar pouch, medial and lateral gutters, and intercondylar notch, brownish-red in appearance  
•Biopsies taken and extensive synovectomy performed

#### 7:38 Biopsy Results

•Papillary architecture, giant cells and foam cells consistent with pigmented villonodular synovitis

#### 7:58 Final Diagnosis

- Juvenile Idiopathic Arthritis (JIA)
- Pigmented Villonodular Synovitis (PVNS)
- Septic Arthritis
- Osteochondral fracture
- OCD lesion
- Bleeding Diathesis (Hemophilia)
- Lipoma Arborescens

#### 8:19 PostOp

- Compression and cryotherapy utilized
- Swelling resolved 7 weeks post-op
- Full ROM and quadriceps strength at 4 months

#### 8:55 Follow-up

- At most recent yearly follow-up (2 years PostOp)
- No return in swelling
- Participating fully in all activities
- Normal radiographs
- No recurrence of PVNS on her exam

#### 9:45 Questions?

10:18 Bleeding Diathesis disorder  
family history of factor 7 deficiency

10:53 Olympic weight lifter – hemophilia

11:45 Effusion problem in children

11:50 Ultrasound discussion

13:00 synovium is everywhere – ACL PCL

14:26 Mechanism of injury – fall

15:00 Patellar Dislocation & Osteochondral Fracture

16:25 Salter Harris Fractures

17:20 Tibial Eminence Fracture