20 year old male with chronic knee pain

Eric Rupe PGY2
20 year old male with chronic knee pain

• 20 year old male UCSD student with 5-6 years of knee pain localized to the distal femur.

• His stated history was “started with fractures in knees, now more pain the longer I stand/walk.”

• Ordering provider history was “x-ray shows lucency consistent with bone cyst of distal femur. Please evaluate for chronic pain”
One notable finding
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Dorsal defect of the patella

- Osseous defect in posterior patella covered by normal articular cartilage
- Well-defined lucent lesion, usually in superolateral quadrant of patella
- Defect may become smaller & sclerotic over time
- Debated whether it is anomaly of ossification or stress-related
Dorsal defect of the patella

- 1:1 M:F, 0.3-1.0% of population\(^1\)
- Most frequently found in adolescents
- Often bilateral
- Lucency with surrounding sclerosis on radiograph
- MR: Low signal on T1WI, high signal on T2WI\(^4\)

Asymptomatic 15 yo Male \(^2\)

Proton density\(^3\)
Differential Diagnosis

• Chondromalacia of the patella

• Osteochondral defect

• Multipartite or bipartite patella
  – Frequently found concomitantly, same patella or contralateral patella

• Intraosseous ganglion

• Osteomyelitis (Brodie’s abscess)
Symptomatic dorsal defects

- Many sources describe them as normal variants, asymptomatic.
- Original paper from 1976, Haswell *et al.*, described 6 out of 16 cases to be symptomatic.
- 1986 – orthopod Gamble out of Stanford described 1 symptomatic case, surgical resected, improved.
- 1987 – van Holsbeeck *et al.* describes 6 cases and their natural history.
- 1993 – Sueyoshi *et al.* describe 2 symptomatic cases, which were resected, resolved.
Histopathology, pathophysiology

- Dense fibrous connective tissue and fragmented and necrotic bone, non-specific

- Van Holsbeeck et al. suggest traction lesion at the insertion of the vastus lateralis, not ulceration of articular cartilage, supported by association of findings with subluxation of the patella.
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References


