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Weak in the Knees: Atraumatic Knee Pain in a 30-year-old Runner

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HISTORY: A 30-year-old female with no significant past medical history presented to Sports Medicine clinic with complaint of 6 months of right knee pain. The pain began when she started jogging on the treadmill and was initially intermittent in nature, but became more persistent three months prior to her clinic visit. She rated the pain a 1 to 2 out of 10 and localized it to the medal/inferior aspect of her patella. She noticed that her pain worsened with any form of weightbearing activity. She denies any locking, popping, clicking, or instability. An x-ray of the right knee in July showed a small subcortical curved lucency noted on the medial femoral condyle. **PHYSICAL EXAMINATION:** Genu valgum appearance of bilateral knees with standing. Normal appearance of the right knee with no erythema, edema or ecchymoses. No tenderness to palpation over the patella tendon, quadriceps tendon or medial/lateral joint lines. Mild tenderness to palpation over medical aspect of posterior medial right patella. Medial plica band present with mild tenderness with palpation. Negative anterior and posterior drawer. Negative valgus and varus stress at 0 and 30 degrees. Right knee flexion strength 5/5, and extension 4.5/5 strength. Negative Ober's test. **DIFFERENTIAL DIAGNOSIS:** 1. Medial meniscal tear 2. Patellofemoral pain 3. Plica syndrome 4. Osteochondral lesion 5. Malignant bone lesion. **TEST AND RESULTS:** MRI of the right knee without contrast showed subchondral edema. Initial diagnosis was read as diffuse osteopenia, and this was confirmed with extensive interdepartmental review. Subsequent review then revealed a very small osteochondral defect at the anterior aspect of the medial femoral condyle. **FINAL/WORKING DIAGNOSIS:** Diffuse osteopenia, potentially resulting from small osteochondral defect. **TREATMENT AND OUTCOMES:** Patient was referred to physical therapy and a further work-up was ordered including a vitamin D level, PTH, TSH, CBC, CMP and magnesium level. These labs were still pending at time of this case submission. A follow-up appointment with Sports Medicine clinic is scheduled in October 2020.