Fibrous Dysplasia with a Femoral Neck Stress Fracture in a DI Volleyball Player  
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**Background:** The patient was an 18-year-old female DI Volleyball player, with no previous medical history of hip pain or injury. The patient began complaining of L hip pain with activity in her sport starting September 2013, which was resolved with rest. Evaluation by the athletic training staff and team physician was unremarkable, but L hip flexor tightness was noted in the iliopsoas and rectus femoris along with overall gluteal weakness. At this time the athlete started a treatment and rehabilitation program for flexibility and symptom management. The patient continued full participation during the competitive season, with no significant changes in the pain during activity, and immediate resolution with rest post activity. After conclusion of the competitive season, the patient reported increased pain in the hip, especially with sports-specific activity. **Differential Diagnosis:** Hip flexor tendinopathy or strain, acetabular labrum tear, femoral acetabular impingement from a CAM or Pincer Lesion, femoral stress fractures. **Treatment:** On March 18, 2014 the patient consulted with the team physician. X-rays and an MRI were taken and the results were unremarkable. The patient was told to continue the past plan of care with increased rest. The patient continued the plan of care with no improvement, and decided to receive a second opinion with another orthopedist. Through the second opinion, an MRI-A was ordered April 1, 2014 when a diagnosis of Fibrous Dysplasia and stress fracture of the femoral neck was found. Consultation with the team physician confirmed the diagnosis, and surgery was performed April 22, 2014, with a lesion biopsy and internal fixation via side plate and hip screw for reinforcement. At the 6 week follow-up the patient had complaints of groin pain with activity and evaluation revealed pain at end range hip internal rotation. Despite this, the patient was cleared to resume full activity with self-monitoring of her symptoms. Another follow up occurred July 16, 2014, because of continued increased pain in the groin with activity. With the increase in pain at this time, the physician performed an injection and started the patient on Fosamax for pain relief.

**Uniqueness:** Fibrous Dysplasia Foundation states “1 in every 15-30,000 people in a normal population are affected” and “The lower limb is effected 46% of time, with the hip being the largest portion.” A study by Moretti et al. found that patients with Fibrous Dysplasia who opted for surgery were pain free and “resumed full activity at a mean of 3.3 months.” In this case, the patient has yet to resume full activity status post 5 months.

**Conclusion:** This case involved an 18 year old DI female volleyball player who began complaining of L hip pain, which led to a diagnosis of Fibrous Dysplasia with a femoral neck stress fracture, causing the patient to opt for surgery. Post-operative, the patient suffered from groin pain, which continues to prevent her from resuming her athletic activities. Fibrous Dysplasia is a rare disease, affecting 9,000-18,000 people in the country, found the Fibrous Dysplasia Foundation. It is hard to develop a definitive number of occurrences because, as a study by Mohan et al. found, “Determining the true incidence of fibrous dysplasia… is difficult because many patients are asymptomatic.” It is important to remember that despite being rare, a diagnosis of Fibrous Dysplasia is possible for our patients, making a functional diagnosis paired with advanced diagnostic imaging important, while understanding that further research is needed to discover the best treatment options. **Relevant Evidence:** Mohan et al. found most cases remain asymptomatic, this patient displayed with symptoms. Moretti et al. found average return at 3.3 months, while this patient is status post 5 months.

**References:**
1. Fibrous Dysplasia Foundation  (2014, April) Frequently Asked Questions. website  
https://www.fibrousdysplasia.org/index.php?page=16