Aneurysmal Bone Cyst on the Left Superior Pubic Ramus of a Collegiate Rower Treated with Sclerotherapy

Gagnon J*, Lundin M*, Colandreo R*, Rybko N†; *Bridgewater State University Bridgewater, MA; †Harvard University Cambridge, MA

Background: This case presents a 21-year-old female crew athlete diagnosed with an Aneurysmal Bone Cyst (ABC) in her pelvis and a secondary pubic fracture. The patient has a history of low back pain. In February 2010, the patient was diagnosed with a herniated disc at L5/S1 in February 2010. Patient first noticed left hip pain while rowing in the Women’s Henley Regatta, June 2012. After the event, she took six weeks off from training. One morning during her break, she woke up with a sudden increase in pain, with no known precipitating event or trauma. The pain progressively worsened over the next three months. Despite her pain, the patient resumed rowing in early August. With pain increasing, she took three weeks off and met with her team’s athletic trainer on August 30th, 2012. Physical examination revealed pain in the hip flexor/adductor group with movement and palpation, decreased strength with hip flexion and adduction bilaterally, and a positive hip scouring test. The patient also presented with a positive Valsalva test and left hip pain with laughing and coughing. Differential diagnosis: Hip flexor or adductor strain, labral tear, pelvic tumor or cyst, hip impingement, herniated disk. Treatment: September 5th, 2012, the patient received a radiograph, arthrogram and MRI of her pelvis. Images revealed a small focus of nondisplaced partial-thickness anterior/superior left acetabular labrum tear, a 3.5x2.5x3 cm aneurysmal bone cyst of the left superior ramus and a mild right quadratus femoris strain. A follow-up MRI a week later revealed an expansile lesion within the left pubis extending along the superior ramus with marked thinning of the overlying cortex and a narrow, non-sclerotic zone of transition. Sclerotherapy was chosen over surgery due to patient being in season. Sclerotherapy is typically used to shrink blood vessels or blood vessel malformations. The patient suffered a fracture of her left pubic ramus in November 2012. Between December and February 2013, the patient received three sclerotherapy procedures; after two weeks of rest and rehabilitative athlete completed rowing season. Patient’s pain returned in May. In June, doctors discovered a new cyst. The patient received sclerotherapy procedure in July. The patient was asymptomatic immediately afterwards and resumed training. Patient’s MRI in February 2014 revealed a reoccurrence of ABC. Between March and August, the patient had three more sclerotherapy procedures with surgery to block blood flow to the region. This resulted in surgical complications; a fracture and leaking of sclerocent agent, inflaming surrounding tissue. Patient’s MRI in November cleared her to start rowing in December. Patient’s most recent MRI in January 2015 revealed no active cysts. The patient has been training full time since. Uniqueness: Patient was selected due to severity and rarity of her injuries (.0004% of population). Sclerotherapy is a developing procedure for ABC. Patient had a high reoccurrence rate which is not typically seen. Conclusions: En bloc resection or amputation is the gold standard for treatment of an ABC. Although this patient’s treatment required nine procedures, sclerotherapy allowed for patient to continue rowing without significant time loss. Relevant Evidence: One study shows MRI and radiographs as preferred tests for diagnosing ABC’s. Sclerotherapy is a less invasive and newer procedure; it involves an injection of a solution into the vessels guided by ultrasound. According to a review done by Mankin et. al., there is a 5% recurrence rate with en bloc resection. In a study done by Sheils and Mayerson at Ohio State the reoccurrence rate with sclerotherapy was found to be <12%. Word Count: 598.