

Purpose

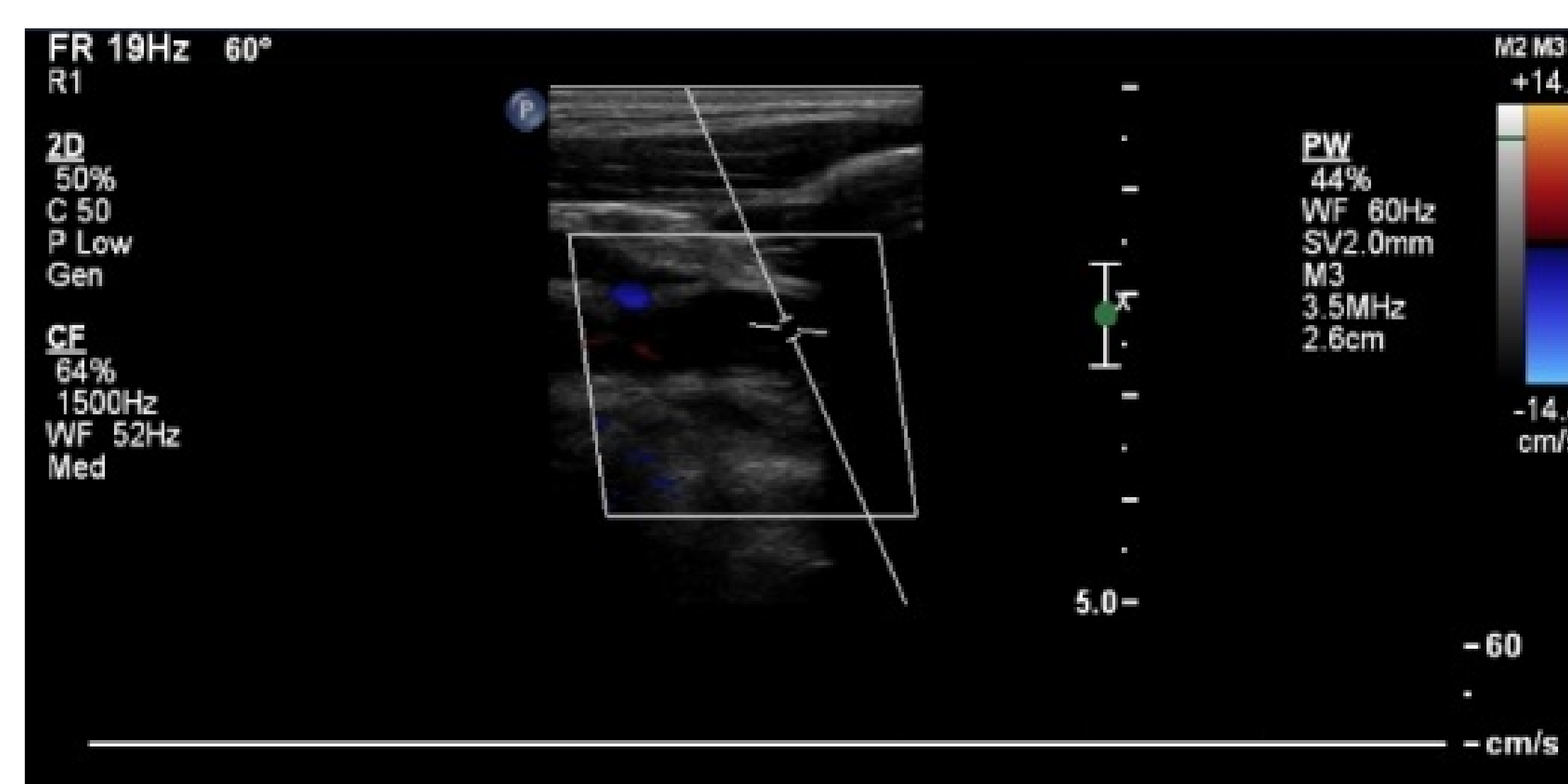
The purpose of this study is to raise awareness of a potentially life-altering condition existing in a generally healthy student-athlete population with previous injuries to the upper extremity. Furthermore, to remind sports medicine professionals that early detection, referral, and treatment is key in reducing the severity of this uncommon condition.

Differential Diagnoses

The athlete was approximately half way through his baseball season, which was taken into consideration, during the initial differential diagnosis:

- Rotator Cuff tendinitis
- Chronic pain from prior SLAP lesion
- General dominant, overuse arm pain.

Positive Doppler Spectrum



The line is equivalent to the line found on a heart rate monitor. The flat line indicates there is no blood flow activity in the subclavian vein.

History

A 21-year-old, previously healthy, male baseball player presented to the athletic training room with a chief complaint of a cyanotic, swollen right arm. One day prior, athlete complained of discomfort in his right arm; however, there were no deficits in range of motion, strength, or function. Athlete had a previous history of several right arm injuries including: a labral repair, HAGL lesion repair, and type II SLAP lesion repair (January 2011); long-head biceps tendon rupture (Fall 2011); and an arthroscopic repair for a SLAP lesion (2009). The swelling extended from the right forearm up to the right shoulder with faint distal radial pulse and capillary refill (>2 sec.). The extremity was cool to the touch; however, the athlete had normal range of motion at the shoulder, elbow, and wrist joints and showed no significant tenderness to palpation in the affected area.

Diagnosis

On March 28, 2012 the athlete was referred immediately to the emergency room where diagnostic ultrasound revealed thrombotic occlusion in the right subclavian vein and proximal right axillary vein of the right upper extremity as a result of Paget-Schroetter Syndrome.

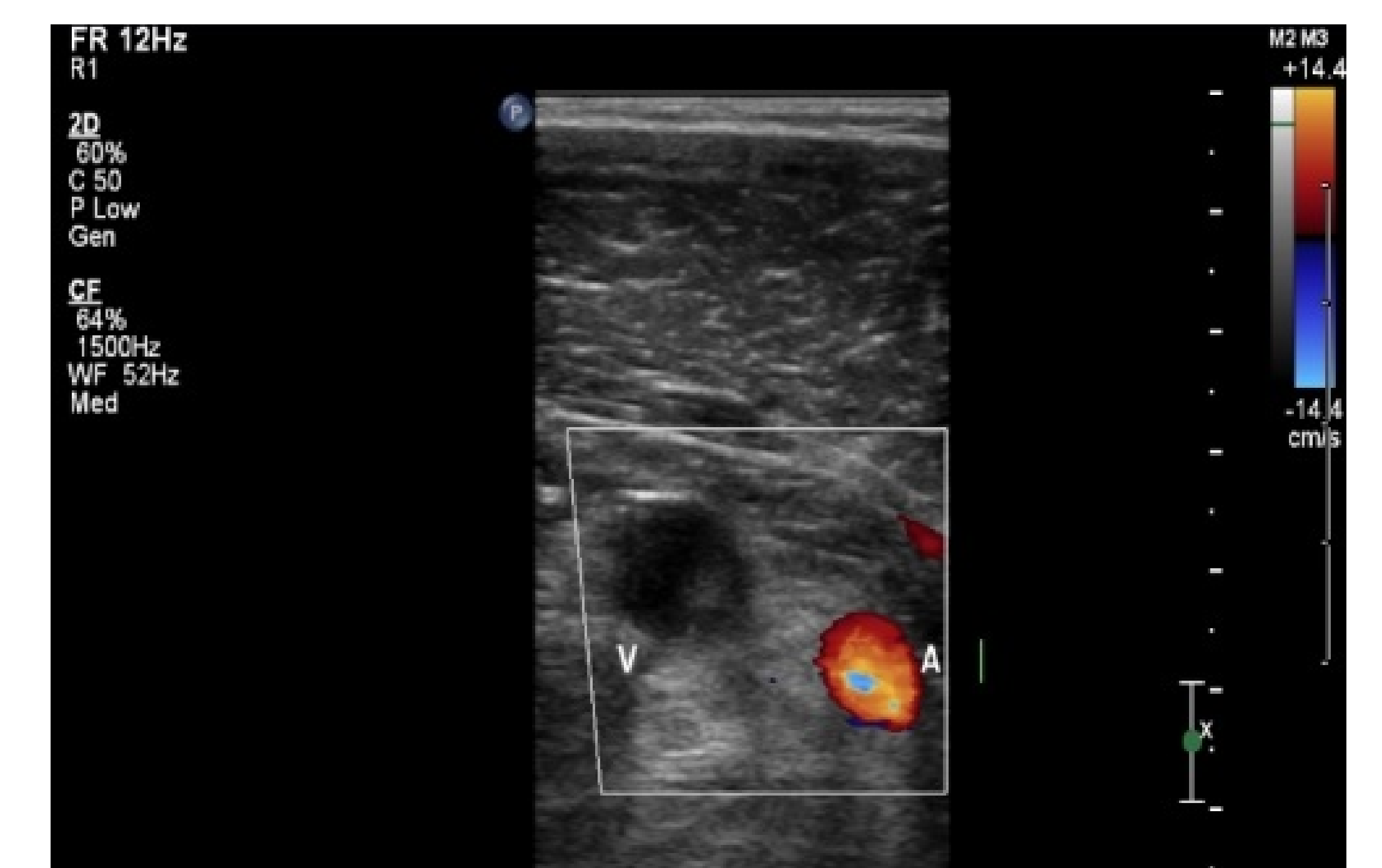
Treatment

Athlete was admitted to a hospital on March 28, 2012 where an IV of Heparin and oral Coumadin were started. On March 30, 2012, the athlete was transferred to another hospital, per family request for a second opinion for treatment. On April 2, 2012, the athlete received surgical correction with a right anterior thoracotomy, a partial first rib resection on the right side, and thrombectomy and vein patch angioplasty of the right axillary vein, right superior vena cava, and the right subclavian artery. The athlete remained on Coumadin and required anticoagulation for approximately six months post-operation. The athlete was able to return to participation by the end of April 2012 with no throwing (designated-hitter) as his only restriction.

Uniqueness

There is insufficient literature regarding this condition in student-athlete populations. In the last ten years, there have been six documented case studies published regarding the occurrence of Paget-Schroetter Syndrome in active individuals. This calls for more research and education in the future. This will help medical professionals improve early recognition, prevention and treatment protocols.

Doppler Phenomenon



Color signifies blood flow. The above picture shows that there is no blood flow through the Axillary Vein.

References

- Dr. Gary Gize, MD- FW Oncology and Hematology
- Dr. William Deschner, MD- Indiana/Ohio Heart
- Dr. Pablo Perez, MD- Parkview Hospital
- Dr. Daniel Branum, MD-FW Cardiology