Vulcan Nerve Pinch: Atypical Shoulder Pain in an Active Bariatric Patient

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Atypical Shoulder Pain in an Active Bariatric Patient

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Patient Presentation:

55-year-old male presents with left anterior shoulder pain. The onset of the pain was several months ago and insidious. The pain is intermittent; it is described as sharp, fluctuating in intensity, and does not radiate. At the time of exam, the pain level is 3/10 but can be as severe as 8/10. He has flares of acute pain lasting up to a couple minutes that are so severe; he describes it as someone giving him the "Vulcan nerve pinch." He denies any weakness, numbness, or crepitus. The patient has a difficult time identifying aggravating factors but recalls having severe pain in the past with throwing, working overhead, and lying down. Resting, "arthritis formula" acetaminophen, and massage have not helped alleviate the discomfort.

History: The patient is only on lisinopril for hypertension. He is obese and status post laparoscopic adjustable gastric band (LAGB) placement in 2009. He works as a salesman for a tool company and volunteers as a youth baseball assistant coach. He is a non-smoker and has no history of cancer in the family.

Physical Exam: 5'8" 270lbs, BMI=41, HR=78, RR=16, BP=128/86

Cervical Spine: Normal ROM. No pain with movement or palpation. Negative Spurling's test.

Shoulder: No skin rash, pallor, or lesions. No bony deformity. Patient points to area between the coracoid process to the acromioclavicular joint as the location of the pain. Palpation does not elicit more pain. Full ROM with 5/5 muscle strength demonstrated without eliciting further pain. No pain with axial load and grind. No apprehension. Hawkin's, empty-can, Speed's, Yergason's, cross-body adduction, and compression testing are all negative. Normal deep tendon reflexes. Light touch sensation is intact. Normal pulses.

Differential Diagnosis: AC Joint OA or Chronic Sprain, Rotator Cuff Tendinitis/Impingement/Bursitis, Subcoracoid Impingement Syndrome, Pectoral Strain, Bicipital Tendonitis, Glenohumeral OA, Labral Tear, Cervical Radiculopathy, Intra-abdominal Pathology (possibly related to bariatric surgery).

Tests and Results: Left Shoulder X-Rays (3 View): No fracture, dislocation, or malalignment. Preserved joint space without evidence of OA.

Final Working Diagnosis: Referred shoulder pain related to LAGB. The patient's shoulder pain was not supported to be intrinsic in nature by physical exam or x-ray imaging. Vague, poorly localized pain in the setting of normal exam findings may be indicative of extrinsic causes for referred shoulder pain. Extrinsic shoulder pain sources include neurologic, cardiovascular, thoracic, and abdominal. On further questioning, the patient reported that although the initial bariatric procedure was in 2009, he did have a revision done just prior to the onset of the shoulder pain. He has also had multiple fluoroscopic "fill adjustments" with ongoing GI side effects. As a result of this, his surgeon planned to remove the device the following week. The decision was made to defer further work-up and treatment until reevaluation post LAGB removal.

Outcome: He reported complete resolution of the shoulder pain after LAGB removal. Patient remains pain-free 4 months after lap-band removal.

Discussion:

Shoulder pain associated with laparoscopic procedures is a well documented phenomenon that was originally recognized by gynecologists.[1] More recently, laproscopy-induced shoulder pain has been documented in bariatric procedures including LAGB. A study by Dixon et al., found that that 66% and 21% of patients reported left shoulder pain at 1 and 5 weeks post LAGB, respectively. In that same study, injury to the crus of the diaphragm and a history of any prior upper abdominal surgery were both found to independently predict an increased risk of pain at 5 weeks.[2] Other studies based on various laparoscopic surgeries have hypothesized that phrenic nerve irritation may alternatively result from insufflation causing mechanical stretch or from the irritative effect of the cold, dry carbon dioxide used.[3,4] Phrenic nerve irritation most commonly refers pain to the C4 dermatome which is in the region of the AC joint. The patient's onset of pain in the C4 distribution after LAGB is consistent with laproscopy-induced shoulder pain. It is unique that his pain persisted for months and actually increased in severity. The fact that the patient's symptoms resolved after LAGB removal is suggestive that his symptoms may have been due to pouch dilation and not acute phrenic nerve irritation from the actual placement itself.

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