Spontaneous Deltoid Muscle Rupture: A Case Report

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Case Diagnosis
1. Left deltoid muscle rupture with circumferentially intact fibers
2. Left supraspinatus tendon tear, retraction
3. Left long biceps tendon partial tear

Case Description
A 78 year old, right handed male presented with four months of progressive left shoulder weakness. He denied any history of trauma, but recalled pushing a lawnmower the week prior to the onset of symptoms. There was no pain, weakness, nor loss of function during this activity; or the week that followed. When symptoms began he noticed ecchymosis of the left upper extremity and a raised, rounded area of soft tissue with a central defect disrupting the contour of the anterior deltoid (Figure-1). The patient initially reported only minimal weakness.

Discussion
We present a unique case of spontaneous deltoid rupture diagnosed through a combination of physical exam, ultrasound (Figure-2), and MRI (Figure-3). Although our patient recalled pushing a lawnmower, there was no recollection of injury. Moreover, he was asymptomatic for one week with no trauma or strenuous activity during that time.

Rupture of the deltoid has been rarely reported. The etiologies of these cases include trauma, repeated hydrocortisone injections around the shoulder joint, and chronic large rotator cuff tears. Reported cases of traumatic deltoid rupture have involved a clear event that preceded the onset of symptoms. Our patient had no such history, nor did he ever receive steroid injections.

Conclusions
The proposed mechanism of deltoid rupture associated with rotator cuff tear involves movement of the humeral head superiorly. This may increase friction between the greater tuberosity and inferior deltoid; placing the deltoid at risk of degeneration. Shoulder hydrocortisone injections may accelerate this process.

Our case of spontaneous deltoid rupture is rare, particularly in a patient without an associated trauma or previous steroid injection.

References