Case of the Week: #4

Tumoral Calcinosis

**History:** Adult male with right shoulder discomfort.

**Diagnosis:** tumoral calcinosis

**Findings:**
Chest radiograph, soft tissue and bone window transverse computed tomography, and oblique coronal maximum intensity projection computed tomography images demonstrate a rounded, multilobulated, calcified mass with sedimentation levels centered within the soft tissues of the right shoulder consistent with tumoral calcinosis.

**Discussion:**
Tumoral calcinosis is a rare, familial condition exhibiting one or more large, painless periarticular masses. The etiology is believed to be related to an inborn error of phosphorous metabolism. The entity does not have sex predominance, but does appear to be more prevalent among patients of African descent.

Lesions usually grow from childhood into adolescence. Classic tumoral calcinosis lesions are characterized as lobular, densely calcified masses confined to the soft tissue, generally at the extensor surface of the joint in the anatomic distribution of a bursa. The cystic appearance shows fluid-fluid levels caused by calcium layering and is commonly termed the *sedimentation sign*. The most common locations of tumoral calcinosis in descending order are the hip, elbow, shoulder, foot, and wrist. At surgery, these lesions are commonly cystic and contain a white to pale yellow chalky material identified as calcium hydroxyapatite crystals with amorphous calcium carbonate and calcium phosphate. Histologically, epithelioid elements and multinucleated giant cells surround calcium granules.

The definition of tumoral calcinosis seems straightforward; however, the term has inconsistently been used as a descriptive diagnosis, at times referring to any calcified mass regardless of the presence of a known metabolic or inflammatory condition or in the absence of biochemical abnormalities characteristic of tumoral calcinosis.

Complications of tumoral calcinosis include compression of adjacent nerves due to mass effect, erosion through the skin surface, drainage through a sinus tract, and (rarely) osseous erosions.

The calcified masses can be surgically excised, but there is a high rate of recurrence if the mass is not completely excised. Dietary phosphorus restriction and phosphate binding agents such as antacids are also an option. Use of steroids, radiation and parathyroid excision has proven ineffective.
References:
Discussion text adapted from:


Additional references:

http://www.mypacs.net/cases/IDIOPATHIC-TUMORAL-CALCINOSIS--835015.html
http://brighamrad.harvard.edu/Cases/bwh/hcache/166/full.html