Shoulder bursitis

Definition

There are several bursae in the shoulder region: the subacromial, the subdeltoid, the subcoracoid, and the subscapular, which, as their names imply, lay beneath the acromion, deltoid, coracoid and scapula, respectively. Although any of the above mentioned bursae can become irritated, inflamed and painful as a result of overuse of or trauma to the shoulder region, the subacromial bursa is by far the most frequently afflicted and often occupational in origin.

☐ Subacromial bursitis

Definition

Subacromial bursitis is inflammation of the subacromial bursa.

In the normal shoulder the coracoacromial ligament crosses the supraspinatus and infraspinatus tendon portions of the rotator cuff. In some individuals, contact pressure from this ligament produces an ischemic lesion of the cuff and can produce tendinitis with intervening bursitis in the subacromial bursa.

Definition of causal agent

Acute injuries or repetitive (cumulative) microtrauma.

Irritation is usually a result of friction, which causes the lining of the bursa to thicken, thus increasing the amount of friction. This affects the normal gliding movement of the soft structures over the bony structures of the shoulder.

Shoulder bursitis is typical for occupations where workers must perform repetitive activities with an elevated arm and big amplitude of movements in shoulder.

Main occupations: blacksmiths, sawyers, earth diggers, etc.

Shoulder bursitis is a common disorder often seen in sportsmen who participate in sports that require repetitive throwing and swinging motions and who use the shoulder joint throughout its entire range of motion, such as in swimming, gymnastic and wrestling.

☐ Acute subacromial bursitis

Acute subacromial bursitis is characterized by localized pain and tenderness, limitation of motion. If acute mechanical trauma occurs in a pre-existing degenerative area, frank disruption of the cuff may result. Impingement of the inflamed area occurs in the middle range of abduction during normal shoulder elevation, but the impinged area is out of the way during full elevation.

Exposure criteria:
Minimal intensity of exposure: occupational trauma or occupational exposure assessed by anamnesis providing evidence of work involving the overuse of the shoulder.

Minimal duration of exposure: from a few seconds or minutes to eight hours.

Minimal latent period: three days.

Diagnostic criteria

- History: occupational trauma or exposure involving the overuse of the shoulder or intensive use of the shoulder joint throughout its entire range of motion.
- Clinical symptoms:
  - onset may be sudden if secondary to acute trauma;
  - pain;
  - localized tenderness;
  - limitation of motions.

- Signs:
  - pain originates in the subacromial region and often is exacerbated by pressure, during shoulder abduction and internal and external rotation;
  - patients begin to experience anterior shoulder pain when the arm is abducted at 30-40 degrees of elevation; as shoulder elevation beyond 120 degrees is reached, the pain may resolve:
  - in some cases pain is limited to the lateral arm about the deltoid insertion on the humerus (referred pain);
  - tenderness to palpation is noted over the greater trochanter and beneath the deltoid muscle;
  - a limited active range of motion;
  - with significant disruption of the rotator cuff, a patient may have no active elevation past mid range because of lost cuff function.

Differential diagnosis

- Presence of infection (sepsis). Acute shoulder sepsis may mimic acute bursitis because of the comparable severity of pain. Sepsis is usually associated with systemic signs, such as an elevated sedimentation rate and white blood cell count.
- Acute monoarticular arthritis (rheumatoid, tuberculosis, gout).

Investigations may be necessary to exclude other differential diagnoses

☐ Chronic subacromial bursitis

Chronic subacromial bursitis may follow previous attacks of acute bursitis or repeated trauma. Occupational chronic subacromial bursitis also may develop as initial chronic disease. The development may be gradual without acute stadium (bursopathia). History of repetitive activities with an elevated arm is present.
The apparent pathology of shoulder bursitis involving the subacromial bursa is attributable to a fibrous build – up and to the presence of fluid that accumulates as a result of the area's constant inflammation. In more chronic situations, there is degenerative rupture of the tendon. If acute mechanical trauma occurs in a pre-existing degenerative area, frank disruption of the cuff may result. Impingement of the inflamed area occurs in the middle range of abduction during normal shoulder elevation, but the impinged area is out of the way during full elevation.

Exposure criteria:

Minimal intensity of exposure: occupational exposure confirmed, if possible assessed, by the anamnesis and analysis of working conditions providing evidence of performing repetitive activities with an elevated arm or repetitive throwing and swinging motions.

Minimal duration of exposure: several months.

Maximal latent period: one month.

Diagnostic criteria

- Occupational history
- Clinical symptoms:
  - limited active range of motion;
  - pain, especially during shoulder abduction and internal and external rotation;
  - night pain;
  - localized tenderness;
  - loss of muscular strength and range of motion.

- Signs:
  - pain is typically caused by abduction and internal and external rotation and originates in subacromial region;
  - tenderness upon palpation of the deltoid and the acromium and over the greater throchanter;
  - muscle atrophy may be noticeable if the condition has been present for several weeks or longer;
  - with significant disruption of the rotator cuff, a patient may have no active elevation past mid range because of lost cuff function.

Differential diagnosis

- Presence of infection;
- Crystalline inflammatory arthopathy;
- Systemic diseases (rheumatoid arthritis, psoriatic arthritis etc.);
- Bone tumours.