

Tx Approaches Vary for Acute Shoulder Injuries

BY LAIRD HARRISON

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LAS VEGAS – Four common acute shoulder injuries can occur during sports or as a result of a fall, according to Dr. Gregory L. Landry, who is professor of pediatrics and head team physician at the University of Wisconsin, Madison.

Dr. Landry presented his overview of these acute injuries, along with treatment tips:

► **Clavicle fractures.** A lateral blow to the shoulder is typically the cause of a clavicle fracture, Dr. Landry said.

The injury is characterized by tenderness, often with deformity. The treatment usually includes a plain sling, which is now preferred over the old figure-eight.

Surgeons are getting more involved in comminuted fractures, especially if they are not midshaft. “If there’s more than 2 cm overlap, especially if it’s the dominant shoulder, you should usually refer,” he said at the meeting.

Athletes with clavicle fractures should not return to collision sports for a minimum of 10-12 weeks, he said.

► **Acromioclavicular sprains.** These injuries most often occur with a fall on an outstretched hand or a direct blow to the joint just above or to the side of the shoulder.

There are multiple degrees of acromioclavicular sprains, ranging from first degree – tenderness over the joint – to sixth degree with severe tenderness, swelling, and deformity, Dr. Landry said.

With the exception of mild cases, he advised ordering x-rays including axillary views.

For grade 1-3 sprains, surgery isn’t usually needed unless there is severe swelling, pain, and deformity or the patient desires it for cosmesis, Dr. Landry said. Grade 4-6 injuries need to be referred to an orthopedic surgeon.

For mild to moderate cases, a sling provides comfort, but the patient should begin rehabilitation as soon as possible, he recommended. This includes range of motion exercises, such as Codman exercises, or wall walks in which patients face a wall and gradually walk their hands up the wall.

As for returning to activity, “as long as they have good function and strength, I let them go back,” he said.

► **Sternoclavicular sprains.** Common in football and wrestling, these sprains usually result from a side blow. Patients with anterior sprains experience anterior pain and deformity. Posterior sprains are tender without much deformity. Anterior-posterior x-rays won’t usually show these sprains, though you can try a serendipity view. Usually, a computed tomography (CT) scan is

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needed to image a posterior sternoclavicular sprain.

Posterior sprains can be life threatening if they impair the trachea, so it’s important to recognize them on the field during sports. The impairment can be reduced with posterior traction of the shoulder.

Most of these sprains don’t require surgery, unless the airway is compromised.

In adolescents, this injury is usually physeal; the proximal clavicle is one of the last to close.

► **Glenohumeral subluxations and dislocations.**

These injuries sometimes occur as the result of a football tackle. Patients feel their shoulder go out or their arms go numb.

Subluxation is more common than full dislocation. A dislocation usually results in an obvious deformity; typically, the head of the humerus ends up

inferior and anterior to the glenoid.

Although posterior dislocations are rare, posterior subluxations are not. These occur with a slide into base or from a football block using an extended arm. The patient may feel the shoulder slide.

Patients generally feel tenderness posteriorly, and experience pain loading the joint posteriorly (which you can assess with a posterior glide test).

If there is acute anterior dislocation, check for axillary nerve involvement.

At the time of the injury, pain typically limits examination. If the physician is certain of the diagnosis, sometimes he or she can relocate the shoulder immediately after the injury, before more pain and spasms occur. But it is important to make sure the pain is not below the head of the humerus, which could indicate a fracture. Although there are many methods of relocation, the key is traction inferiorly.

If the patient has good range of motion and only mild pain, assess the instability of the joint using the apprehension sign, the posterior glide (jerk test), and the sulcus sign.

Take a minimum of two x-ray views: the acromioclavicular joint, usually anterior and posterior; and an axillary view of the glenoid.

Once the shoulder has been reduced, check the x-rays for the presence of a Bankart lesion (an avulsion of the glenoid) or Hill-Sachs lesion (a dent in the head of the humerus).

For acute anterior dislocation, a sling will provide some comfort. The patient should begin an aggressive rehabilitation program as soon as he or she is able. Surgery is usually necessary only if the rehabilitation fails or if the injury recurs, according to Dr. Landry.

If locking or catching occurs along with the instability, a labral tear might be the cause. Labral tears can usually be diagnosed with an MRI arthrogram, he said.

Dr. Landry said that he had no relevant financial disclosures. ■

Intra-Articular Steroids Slowed Bone Loss in RA

BY DOUG BRUNK

FROM ANNALS OF THE RHEUMATIC DISEASES

Patients with early rheumatoid arthritis who were on methotrexate and received intra-articular corticosteroid injections into inflamed metacarpophalangeal joints for 3 months lost less periarticular density than did those who received methotrexate alone, results from a small study demonstrated.

The finding “supports the concept that, in conditions where inflammation dominates such as early RA, treating inflammation is more important than the negative effect of corticosteroids on bone,” reported researchers led by Dr. Glenn Haugeberg.

Dr. Haugeberg, who is professor of neuroscience at the Norwegian University of Science and Technol-

ogy, Trondheim, and a member of the department of rheumatology at Sørlandet Hospital in Kristiansand (Norway), and his associates at two clinical centers in the United Kingdom treated 19 early RA patients with methotrexate alone and 21 with methotrexate plus intra-articular corticosteroid injections for 3 months.

Over the next 9 months, all 40 patients received methotrexate plus intra-articular corticosteroid injections.

To assess the effect of treatment on bone loss, the researchers used MRI of the metacarpophalangeal joints of the dominant hand (that is, MCP joints 2-5) at baseline and 3 and 12 months, as well as DXA (dual-energy x-ray absorptiometry) images of both hands at baseline and 3, 6, and 12 months (Ann. Rheum. Dis. 2011;70:184-7).

They used linear regression analysis to determine the association between reduction in bone mineral density and demographic and disease variables, adjusting for treatment group.

The mean age of patients was 54 years, and 55% were women. In the first 3 months of the study, pa-

tients in the group who received methotrexate plus intra-articular corticosteroid injections experienced significantly lower rates of bone loss in MCP joints 2-5 than did their counterparts in the methotrexate-only group.

The rate of bone loss was -0.45% vs. -2.69%, respectively, in digit 2; -0.34% vs. -3.32% in digit 3; -0.39% vs. -2.57% in digit 4, and -0.59% vs. -2.70% in digit 5.

Bone loss in the hand overall was less pronounced over the same time period (-1.53% among patients who received methotrexate plus intra-articular corticosteroid injections, compared with -2.42% among those in the methotrexate-only group).

In months 3-12, when all patients received intra-articular corticosteroid injections, only minor, non-significant differences in the rate of bone loss were observed between the two groups.

“Data from the current study suggest that bone loss may be arrested by intra-articular corticosteroid injections more effectively in periarticular regions than in the whole hand,” the researchers wrote.

“This may support the view that periarticular osteoporosis results from

local production of proinflammatory cytokines which activate osteoclasts to break down bone locally and is not predominantly the result of circulating proinflammatory cytokines.”

In discussing their findings, the investigators wrote that the “results from the hand bone density studies also suggest that prednisolone is equivalent to [anti-tumor necrosis factor] treatment in reducing the rate of hand bone loss. From a practical point of view, local administration of corticosteroids may be better than systemic administration as the drug is administered at the target site of the inflammatory process and is not disseminated throughout the body.”

They acknowledged certain limitations of the study, including the small sample size and the fact that “the precision of DXA for periarticular regions is poor compared with whole hand measurement. Furthermore, the method is not feasible for clinical use; it has therefore been recommended that assessment of the whole hand be used as a marker for periarticular bone loss. ■

VITALS

Major Finding: In the first 3 months, the rate of bone loss among patients with early RA who were treated with intra-articular corticosteroid injections plus methotrexate vs. methotrexate alone was -0.45% vs. -2.69%, respectively, in digit 2; -0.34% vs. -3.32% in digit 3; -0.39% vs. -2.57% in digit 4, and -0.59% vs. -2.70% in digit 5.

Data Source: A study of 40 patients who were treated for 12 months.

Disclosures: The researchers stated that they had no relevant financial disclosures to make.