

Insufficiency Fractures of the Pelvis

Deborah Pate, DC, DACBR

Postmenopausal females with osteoporosis are at a relatively high risk for insufficiency fractures of the pelvis. The older the patient the higher the risk, i.e., as high as 20 percent in the over 70 age group. Insufficiency fractures or stress fractures have been commonly described involving the femoral neck and pubic bones; I think most of us are well aware of these lesions. Other insufficiency fractures of the pelvis that are not so easily identified are the insufficiency fractures of the sacrum and acetabulum. These fractures can go unrecognized, leading to occult fracture causing serious complications.

Commonly, the patient complains of low back pain and/or hip pain. Pain radiating down one leg is often an associated complaint. Many times a patient will have a history of steroid therapy, radiation therapy or rheumatoid arthritis. Steroid and radiation therapy both cause osteonecrosis and accelerate the changes associated with osteoporosis. Rheumatoid arthritis is almost always associated with osteopenia due to the hyperemia caused by the inflammation and pannus formation, which slowly destroys the joint. Often, these patients will already have compression fractures involving the spine due to the osteoporosis.

The two areas in the pelvis that are predisposed to insufficiency fractures that are commonly missed are the supra-acetabular fracture and the sacral fracture. The supra-acetabular insufficiency fractures can be seen on routine radiographs as hazy bands of sclerosis immediately above and parallel to the acetabular roof. One of the more recent cases that I have seen involved a 57-year-old woman with osteoporosis and pain in the right hip. She was receiving estrogen and fluoride therapy as well as calcium and vitamin D supplementation. She also was being treated with chiropractic adjustments for the hip pain and was given a heel lift for a compensatory short leg. The adjustments initially relieved the hip pain for the first two to three weeks of treatment, but gradually the relief of symptomatology was not obtained. The films were sent to me for review and a possible stress fracture was identified. The patient underwent a bone scan to confirm the presence of the lesion. The bone scan demonstrated an increased uptake in the same region that appeared suspect on the plain films. Complete bed rest with only bathroom privileges was recommended for a period of two weeks. Therapeutic exercises were added daily in the form of range of motion, walking, and flutter kicking all performed in water.

Except for the exercise in the pool, the patient remained mainly in a non-weight bearing position for the next two weeks. Comparison films were performed after the fourth week of treatment and demonstrated evidence of healing. The patient has continued with the water exercise program and has gradually extended the weightbearing periods with short walks on level ground. The bone scan was repeated after six months of therapy and demonstrated minimal activity at the origin site of the fracture. Most of these types of stress fractures can be managed conservatively and will respond well, if diagnosed before an occult fracture occurs.

Figure 1

Stress Fractures of the Pelvis

1. Supra-acetabular region
2. Femoral Neck
3. Pubic Rim
4. Sacral region

Deborah Pate, D.C., DACBR
San Diego, California

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