

## Acetabular Rim Syndrome in Young Adults: A Major Cause of Osteoarthritis of the Hip

Warren Hammer, MS, DC, DABCO

*Dysplasia* means abnormal tissue development,<sup>1</sup> and acetabular dysplasia is a major precursor of osteoarthritis of the hip.<sup>2</sup> Acetabular dysplasia causes secondary osteoarthritis in 25 percent to 50 percent of patients by the age of 50 years. It is important to know that acetabular dysplasia could present as a distinct clinical entity before the onset of osteoarthritis (OA), and recognizing what is sometimes called "acetabular rim syndrome"<sup>3</sup> before the development of this disease may be crucial.

Young adults are defined as between 18 to 35 years of age;<sup>4</sup> their hip pain is often nonspecific regarding symptoms. Radiological findings may be negative. It is important to rule out early any possibility of fractures, infections, inflammation or ischemic necrosis; laboratory tests of blood, urine and at times synovial fluid may be necessary.

It is also necessary to know that patients with dysplastic acetabular rim syndrome (ARS) present with unique findings on history and physical examination. Early symptoms will occur due to overload of the acetabular rim caused by hip motions such as a combination of flexion, adduction and internal rotation. Getting out of a car or doing the breast stroke are examples of this type of movement stress.<sup>2</sup> Snapping, locking and clicking are common in ARS, causing the clinician to think of problems related to the labrum or a painless snapping iliopsoas.

Garbuz, et al.,<sup>2</sup> state that any patient with a snapping iliopsoas should be X-rayed to rule out ARS. Symptoms due to hip instability may be related to ARS. The patient may suffer unexplained falls or the feeling that his or her hip may give way. With acetabular dysplasia, there may be excessive anteversion of the femoral neck, causing an increase in hip internal rotation on examination. The capsular pattern of the hip that indicates osteoarthritis is almost always a decrease in hip internal rotation. Therefore, as soon as osteoarthritis appears, decreased hip internal rotation will also appear.

Two important functional tests that may indicate hip dysplasia are the impingement and apprehension hip tests. For the impingement test, the patient is supine; the clinician flexes and internally rotates the patient's hip to 90 degrees, and then adducts. This movement brings the anterior femoral neck in contact with the anterior rim of the acetabulum, which is the common site of the acetabular dysplasia. This test will reproduce the typical groin pain that may be present with this condition. For the apprehension test, the supine patient lies with his/her hip extended, which the clinician externally rotates. This test shows anterior hip instability causing a feeling of discomfort and instability in the patient.

Plain radiographs of the hip are still the gold standard for initial evaluation of a dysplastic hip. The authors<sup>2</sup> recommend a pelvic view taken in the standing position, a false profile view,<sup>5</sup> and a functional view in abduction of the affected hip. MRI is not the image of choice for the dysplastic

hip.

If necessary, medical treatment for ARS is a rotational pelvic osteotomy, which has been shown to improve symptoms and "has the potential to delay the onset of OA."<sup>2</sup>

The American College of Rheumatology<sup>6</sup> states that the diagnosis of OA is the cause of hip pain when two of the following three criteria are present: 1. an ESR less than 20 mm/hour; 2. radiographic evidence of femoral or acetabular osteophytes; or 3. narrowing of the joint space. These criteria are 89 percent sensitive and 91 percent specific.

Conservative treatment, consisting of flexibility stretching and strengthening of the pelvic and lower extremity muscles, should be attempted. Mulligan technique using mobilization with movement with a treatment belt can be effective.<sup>7</sup>

### References

1. *Stedman's Medical Dictionary*, 27<sup>th</sup> edition. Philadelphia, Lippincott Williams & Wilkins;2000:554.
2. Garbuz DS, Masri BA, Haddad F, Duncan DP. Clinical and radiographic assessment of the young adult with symptomatic hip dysplasia. *Clin Orthop* 2004;418:18-22.
3. Klaue K, Durnin CW, Ganz R. The acetabular rim syndrome. *J Bone Joint Surg* 1991;73B:423-429.
4. Troum OM, Crues JV. The young adult with hip pain: diagnosis and medical treatment, circa 2004. *Clin Orthop* 2004;418:9-17.
5. Lequesne M, de Seze S. Le faux profile du bassin: nouvelle incidence radiographique pour liétude de la hanche: son utilite dans les dysplasies et les differentes coxopathies. *Rev Rhum Mal Osteoartic* 1961;28:643-644.
6. American College of Rheumatology Subcommittee on Osteoarthritis Guidelines. Recommendations for the medical management of osteoarthritis of the hip and knee. *Arthritis Rheum* 2000;43:1905-1915.
7. Mulligan BR. *Manual Therapy "Nags," "Snags," "MWMS," etc.*, 4<sup>th</sup> edition. Wellington, NZ, Plane View Services Ltd., 1999.

Warren Hammer, MS, DC, DABCO  
Norwalk, Connecticut  
[softissu@optonline.net](mailto:softissu@optonline.net)  
[www.warrenhammer.com](http://www.warrenhammer.com)

AUGUST 2005