Dynamic Chiropractic

Determining a Diagnosis of Facet Syndrome

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First, let's state that it is difficult if not impossible to make the diagnosis of facet syndrome, because there are usually several contributing factors. Degenerative disc and facet disease are often part of the complex and are either the main disorder contributing to the symptoms or at least a major contributing factor. This disorder can simulate a disc lesion. More often than we would like to admit, it is misdiagnosed as a disc lesion.

Radiographic findings cannot confirm the disorder but generally can help rule it out. The diagnosis of facet syndrome is most often a clinical diagnosis. Radiography may or may not be helpful in determining its existence. The best article I have ever found regarding the diagnosis of this disorder was "Facet Syndrome" by Rolf E. Peters,DC, in the *European Journal of Chiropractic* in 1984. Peters and many others report that there generally are several helpful radiographic findings that may indicate a facet syndrome. It is noted that an increase in the sacral base angle (posteriority of the gravity line) and in increase in the lumbosacral disc angle are associated with an increased incidence of the facet syndrome in patients with lower back pain.

The term "facet syndrome" has been associated with an overriding of the facets of adjacent vertebrae. This finding is frequently seen on radiographs and may be present in asymptomatic patients. There has been a tendency to diagnose patients with radicular pain as having a disc lesion. This probably is due to the fact that with MR studies we can evaluate the disc easily, and therefore wish to attribute all the symptoms to the disc lesion when this disc may not even be the cause of the patient's complaints.

The facets are not as easily evaluated, even with MR. Facet injections are being performed now to determine if the symptoms are coming from the facet, but this is generally not performed in the initial evaluation of the patient. Often it is the last procedure performed and is done after the patient has undergone a discectomy or more. There should be a better way of determining the true cause of a patient's clinical complaints. There should also certainly be a phase of conservative treatment before performing aggressive procedures such as surgery.

I would like to review just a bit of the anatomy of the facet joint, then make some suggestions regarding examining a patient for a facet syndrome. The larger nerve bundles entering the fibrous capsule arise from several sources. Dorsal primary rami of cervical, thoracic and lumbar spinal nerves supply two successive articulations; each joint, therefore, has a bisegmental innervation.

In the lumbar region a deep branch of the dorsal ramus loops under an accessory process and burns cranially and medially to supply the multifidus, semispinalis and rotatores muscles. It then gives off a small branch to the dorsocaudal aspect of the capsule of the joint at the level from which the nerve is derived. Another more lateral branch of the same dorsal ramus is directed caudally, lateral to the accessory process, supplies parts of the sacrospinalis muscle, then sends a branch to the articulation a segment caudal. Thus, a single lumbar spinal nerve supplies an articulation near its emergence and as another joint one vertebra caudally.[1]

Clinically, the patient with a typical facet syndrome (we know that there is no such patient, but it's

the best we can determine) will complain of a sudden onset of unilateral or bilateral low back pain with or without radicular pain, extending into the extremity. The referred pain pattern will differ depending on which facets are the cause of the symptoms.

The pain generally increases with motion (particularly with extension) and is relieved by rest. Facet pain, unlike disc pain, is not increased by coughing and sneezing. Localized tenderness usually is observed at the lumbosacral junction; a "spring test" of the individual facets often will reproduce the pain. The "spring test" can be performed by palpating the facet joint and pressing down on the facet with deep pressure, then releasing quickly.

Kleynhans[2] has classified facet syndrome into three types:

1. Traumatic: due to injury to the facet joint and associated with inflammation to the joint capsule;

2. Pathologic: due to degenerative arthrosis of the facet joint and generally associated with degenerative disc disease;

3. Postural: due to biomechanical changes that place more stress upon the facets ... chronic occupational strain and obesity.

In general, the radiographic findings of facet imbrication or overriding of the facets is indicative of a possible facet syndrome. Macnab's joint body line can also be used as a radiographic indication of disc thinning and facet imbrication. The sacral base angle is also helpful when one suspects a possible facet syndrome at the L5-S1 level. It has been suggested that a posterior shift in Ferguson's gravity line may predispose a patient to a facet syndrome involving the lumbosacral junction.[1]

Cox and Erhart have stated that the facet syndrome angle changes can be associated with a facet syndrome in the lumbosacral region. An increase in the sacral base angle and lumbosacral disc angle and a posterior shift in the gravity line all suggest the tendency toward a facet syndrome. Generally, most patients with an uncomplicated facet syndrome will respond to chiropractic adjustments as long as the appropriate level is mobilized.

References

1. Stilwell D, Jr. *The Nerve Supply of the Vertebral Column and its Associated Structures*. Stanford University, Department of Anatomy, Stanford, CA.

2. Kleynhans AM. Facet syndrome. *Journal of the Austrian Chiropractic Association* 1993.

APRIL 1999