

Iliac Nodular Disorder, Thoracolumbar Syndrome and Associated Topics

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Nodular disorder is a common low-back problem, but it is frequently misdiagnosed or altogether unidentified in our profession. Dr. Warren Hammer discussed the topic of nodular disorder in this publication in 1998 [www.chiroweb.com/archives/16/10/24.html]. In that article, he referenced several medical sources, which have referred to this disorder as complaints of pain over the medial portion of the iliac crest and in the gluteal or lumbosacral region. He went on to describe the relationship of the medial branch of the superior cluneal nerve crossing over the iliac crest through an osteofibrous tunnel. According to Dr. Hammer, facets at T12, L1 and L2 can affect the cluneal nerves. The tunnel is rather fibrous and nodular. He described how one may treat the area of pain with trigger-point therapy and/or active release of osteofibrous tissues. The medical sources referenced in Dr. Hammer's article claim this is not a common disorder, and that it has been treated by lidocaine and steroid injection. These sources also note surgery as an option.

I refer to these osteofibrous disorders as nodular disorders, because the upper-medial-crest osteofibrous disorder described by Dr. Hammer and others is not the only such painful disorder found in the iliac-crest region. In *Physical Examination of The Spine and Extremities* (1976 edition), Stanley Hoppenfeld stated, "On occasion, fibro-fatty nodules may be found along the iliac crest. Such palpable enlargements are painful and very tender to the touch." He referred to multiple nodules, rather than one fibrous tunnel. He further stated, "As you probe the area of the gluteal origins, check for fibrofatty nodules, which are sometimes found lodged just under the lip of the iliac crest's posterior portion. They may be tender to palpation and can cause localized low-back pain. Neuromata of the cluneal nerves are also tender to palpation." Again, Dr. Hoppenfeld was referring to multiple nodules.

My experiences with this syndrome are fairly extensive. First of all, I see patients with tender/painful nodular areas frequently in my practice. I believe the disorder is reported less frequently, overall, because of a lack of proper inspection of low-back complaints.

The disorder usually presents more dramatically on one side, but it can be bilateral. On inspection, it presents at the upper iliac crests, not the regions over the sacrum or lumbosacral facet regions. A visual inspection may lead one to assume that the area of concern is the lumbosacral region; however, this is not the case. The best way I have been able to identify this syndrome is by massaging (using lotion) the upper- and mid-gluteal muscle and tendonous fibers.

My findings also have differed somewhat from previous references, which would lead one to expect discrete nodular structures appearing in the gluteal regional muscles:

1. There are discrete nodular structures that become sore. They vary in shape and size. They often feel like enlarged lymph nodes that can be moved with pressure. Others feel much larger and may represent a fusion of several nodes, by tactile impression. They often feel like fluid-filled-cyst-like structures. In general, they are 1-3 cm in diameter.
2. Others such structures are not as discretely nodular in tactile impression, but represent

denser regions in upper-gluteal tissues. These regions do not feel like cysts or lymph nodes, but contracted zones of gluteal tissues at, on or near the tendonous gluteal origins. A region of about 1 1/2 to 2 1/2 inches at the upper-iliac crest, spanning from the medial crest to the outer crest (laterally), is the disorder's main location. This area is measured from the upper-palpitory level of the iliac crest, going inferiorly. One also may sense, on palpation, that these regions are indiscrete and diffuse musculo fibrous regions within the upper gluteal muscular, musculo-tendonous, or teno-osseous regions.

3. The upper medial posterior crest region is the most sore and common site of such complaints, although the entire upper-crest region is almost as common.

The questions I have had as a chiropractor regard the potential of origin of such nodular regions as being totally or partially related to joint function. I am referring to the origins of some or all of the physical nodular regions and/or the appearance of pain/soreness. Since cluneal nerves have been identified as penetrating these upper-gluteal tissues, one would suspect involvement of T12 to L2. One would also suspect a relationship to spinal dysfunction from T12-L2, affecting the nerve roots, rather than a segmental facilitative process.

Another potential origin or exacerbating factor which I have noticed is the AS ilium fixation. In previous articles in this publication, I explained how the AS ilium fixation may lead to hypertonicity and tightening/shortening of gluteal muscles. When this occurs, the tendonous origins of gluteal tissues comes under tensile stress, involving the tendonous regions and muscle fibers leading into these regions. Inflammation or irritation of gluteal tissues with ilium AS fixations can result, with the ultimate development of fibrous tissues.

Experientially, I have observed the following:

1. Releasing the AS ilium fixation via an adjustment to the appropriate segmental source can reduce or eliminate upper-gluteal pain.
2. Adjustments to the lower-thoracic or upper-lumbar fixations can reduce or eliminate upper-gluteal pain.
3. Various treatments to the upper-gluteal tissues can reduce the level of pain. Such treatments are designed to break down adhesions, reduce muscle hypertonicity and/or sedate the region. Treatment can include any combination of additional adjunctive aids, including massage techniques; electrotherapy; cold packs; pulsed ultrasound (with or without phonophoresis; stretching maneuvers; posture changes; ergonomic changes, such as chair support, mattresses, etc.; and extension exercises (i.e., using towel rolls).

In my experience, a combination of all three therapeutic approaches proves most effective. Exercise judgment when proceeding; for example, extreme inflammation or irritation may contraindicate the use of massage in the region.

If the patient is physically unable to tolerate direct therapy to the involved tissues due to fibromyalgia, ankylosing spondylitis, rheumatoid arthritis, etc., direct steroidal injection into the area may be the best adjunctive procedure. I speak from observation of such cases, although I also believe the vast majority of cases can be handled with the protocol I have described. I would, therefore, refer to and add this common nodular syndrome to any list of spinal associated disorders.

Iliac crest nodular regions may fall into the following three classifications, distinguished by degree

of tenderness:

1. tender/painful without pressure or palpation. It may hurt or be sore all the time, or with certain motions, such as walking.
2. tender/painful with applied pressure, such as digital palpation.
3. nodular regions that are asymptomatic unless deeply palpated or agitated.

A similar disorder, which may overlap this nodular disorder is Maigne's syndrome, also known as thoracolumbar junction syndrome. The posterior rami of the T12 to L1 nerve roots innervate the superior gluteal regions and the inferior lumbar subcutaneous tissues. The anterior rami innervate the lower abdomen and groin region. A branch from the anterior also innervates the hip region.

In summary, pain or symptoms such as paresthesia or burning may result from irritation to T12 and L1 nerve roots. Such symptoms may be felt in the lumbosacral region; lateral region of the hip; pubic region; buttocks; groin; or over the sacroiliac joints.

In his postgraduate presentation on clinical case management, Ron Le Febvre, MA, DC, clinic director at Western States Chiropractic College, covers thoracolumbar syndrome quite professionally. My summary above is based on his presentation. Dr. Le Febvre notes the following regarding this syndrome:

- Patients never complain of spontaneous pain of the thoracolumbar junction.
- Lateral flexion away from the side of pain often produces or increases pain.
- Clinical observations include pain and deep tenderness to palpation over the iliac crest, at the point where the distal cluneal nerve branches cross the iliac crest (7-8 cm lateral to midline); hypersensitivity of skin and subcutaneous tissues of the gluteal and iliac crest areas (noted with skin rolling); and joint restriction and localized tenderness over the thoracolumbar motion segments.
- Trigger points are infrequent and small, found along the inferior border of the rectus abdominus and sometimes the quadratus lumborum.
- Maigne suggests this syndrome may be associated with abdominal pain on that same side and may mimic irritable bowel syndrome or gynecologic urologic or testicular pain.

In other words, the components of lumbosacral regional functional disorders, such as hypomobile subluxations, may form a syndrome in which the patient reports any or all of the following:

1. lumbosacral pain/complaints
2. sacroiliac pain/complaints
3. buttock pain/complaints
4. groin pain/complaints
5. lateral hip pain/complaints
6. pubic pain/complaints
7. abdominal pain/complaints
8. irritable bowel (altered bowel function; constipation; hypersecretion of colon mucous; flatulence; nausea; anxiety; depression; food sensitivities). Note: abdominal pain may be mistaken for disorders affecting the kidney or liver.
9. gynecologic complaints
10. urological complaints
11. testicular complaints

With thoracolumbar syndrome, the skin and subcutaneous tissues at the gluteal and iliac crest regions are hypersensitive, as noted with "skin rolling." This is similar to the nodular disorders previously described. It may be that these disorders are one and the same; deeper inspection with regard to Maigne's syndrome may reveal nodular, contracted, fibrous structures.

In treating the hypomobile spinal subluxations, it is imperative to identify the specific levels of involvement. I perform the following inspective procedures:

1. Seated motion palpation, checking extension, rotation, flexion, and lateral bending. The emphasis is placed on finding poor extension joint complexes.

Because the upper-lumbar and thoracolumbar regions (not segments) tend to hyperextend, or demonstrate excess regional give to palpation challenge, I next place the patient in the prone position. This position locks the spine, preventing larger areas from yielding to extension pressure, and allowing for isolation of individual extension fixations.

1. Prone motion palpation, exerting P- to A-pressure at all lumbar and thoracic levels. Checks for rotation and lateral bending also are included. I have found that common extension fixations are located in the thoracolumbar region. The L1, T12 and T11 levels are often restricted. I've also found it is common to see alternating patterns, skipping one level at a time. For example, L1, T11 and T9 will be most restricted in testing P to A. If the patient is seated, however, the L1 and T11 fixations may not reveal themselves, because the overall curve is too yielding, and flexible to palpation pressure.

I also have found that patterns of rotation predominate, when tested prone. I most commonly find more anterior-placed facets on the right side, and more posterior-fixated facets on the left side. In addition, right-sided anterior rib, abdomen or chest pain can be associated with this pattern.

Treatment of thoracolumbar hypo-mobile fixations may prove complicated, particularly because adjusting T11, T12, L1 and L2 can be a challenge. I have found that I can adjust these levels effectively using an incline bench. (This is a bench modified so that the caudal end raises to about 40degrees. I perform a supine ("anterior") adjustment to the fixed levels. My curled hand or fist is behind the patient on the selected level of extension and rotation fixation, and I push on the patient's elbows from the front. The effectiveness of this technique is enhanced by the fact that I can flex the patient slightly forward and remove tissue slack from the T/L region. The specific adjustment can be followed by appropriate soft-tissue procedures, as previously described. However, performing the proper adjustment is essential, above all other considerations. Other treatments can be added thereafter to help alleviate symptoms; these adjunctive treatments may later become the "primary" treatments of spinal dysfunction prevention, so that spinal dysfunction does not recur so easily. Patient participation is essential.

I would like to add another related observation. The longer I practice, the more I discover that the thoracolumbar region is responsible for myriad lumbosacral and sacroiliac disorders. Thoracolumbar extension fixation subluxations usually lead to lumbosacral extension stress with hypo- or hypermobility and sacroiliac hypomobile compensatory fixation patterns.

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