Myofascial Pain Syndromes Part III — Some Syndromes Of The Trunk And Thigh

Charles Long II
MYOFASCIAL PAIN SYNDROMES
Part III — Some Syndromes of the Trunk and Thigh

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In the two previous parts of this discussion, the syndromes presented could be most easily confused with neurologic disorders. However, in the trunk the differential diagnosis is most often between myofascial pain syndromes and visceral disease. In many cases it is found that visceral disease and a secondary pain syndrome exist concomitantly. Just as it is possible for a myofascial change to take place in the reference area of neural or skeletal pain, so is it possible in the reference area of visceral pain.

A difference exists in the mechanism of pain reference in neuroskeletal pain and visceral pain. The difference is one of transmission route only. The neuroskeletal pain most often travels somatic peripheral nerve fibers to the cord, while visceral pain most often travels autonomic nerve fibers to the cord. In both cases, misinterpretation of the source of the pain (probably due to summation of cord impulses) is the common factor.

Once again it should be emphasized that myofascial pain syndromes, including the trunk group, may exist per primum and do not necessarily or usually signal underlying disease. In any case of pain in the chest or abdomen it is just as important to palpate the outside firmly as to auscultate the inside diligently.

THE ANTERIOR CHEST WALL SYNDROMES

The anterior chest wall syndromes have in common the occurrence of aching or sharp chest pain, often without radiation, sometimes brought on by activity, but not relieved by rest or food. Pain may awaken the patient at night; it may come on when the patient sleeps on the affected side, or may be unrelated to position. It is sometimes affected by weather changes, but is not accompanied by anything equivalent to the gelling phenomenon of the neck and shoulder group of syndromes.

The pain is usually not directly substernal, although in some cases it may be. The trigger area in such cases is felt by Travell to be in the rudimentary sternalis muscle, injection of which will relieve the substernal distress.

Pain in these syndromes usually occurs in one of four fairly circumscribed areas. In most cases the patient’s pain directly overlies the trigger area. All of the myofascial pain syndromes of the chest seem to occur with more frequency on the left than the right.

The first area of involvement is in the upper half of the chest, usually overlying the converging fibers of the pectoralis major in the second and third costal or intercostal regions close to the mid-clavicular line. Tenderness may involve this entire section of the chest, or may be restricted to the size of a dime. Pain on occasions radiates to the shoulder or medial arm, and can exactly simulate anginal radiation.

This syndrome, the pectoralis major syndrome, may exist by itself, or in the presence of cardiac disease (usually coronary insufficiency). Relief of severe or recurrent pain by the treatment of the chest wall itself has been reported in acute myocardial infarction and in pain following myocardial infarction.

The treatment of choice is injection of the offending trigger area. Oral steroids have been reported to be helpful, but this author has not used them widely. If the involved area is too broad to be easily injected, it may respond to local Ethyl Chloride

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spray. A word of caution — these injections may be painful and the sensitive anginal patient and his physician should be aware of the danger of precipitating angina during injection.

The second area of frequent anterior chest involvement appears usually in women and is located just beneath the breast in the midclavicular line in the sixth or seventh interspace or costal region. The pain is closely localized overlying the trigger area. It sometimes co-exists with a scapular trigger point and scapulocostal reference, thus being a secondary trigger within the reference area of the scapulocostal syndrome; another such secondary trigger is often along the same ribs in the mid-axilla.

This inframammary syndrome is usually seen on the left. It almost always responds rapidly to injection, and sometimes responds to the oral administration of antispasmodics or antacids. The latter clinical observation suggests the summation of gastrointestinal visceral impulses with chest wall somatic impulses. However, visceral involvement is not a sine qua non of this syndrome.

The third anterior chest wall syndrome, the costal margin syndrome, has its pain and its trigger point along the margins of the eighth, ninth and tenth ribs as they conjoin. I do not think it shows as much preference for left laterality as the two syndromes above mentioned. It responds rapidly to local injection.

The fourth syndrome is not strictly a “myofascial syndrome”, but deserves mention as a soft tissue cause of local anterior chest pain. This is “Tietze’s Syndrome”, or the costochondral junction syndrome. It is reportedly due to a chondritis or perichondritis of the costochondral junctions. It appears usually in the upper chest and responds rapidly to local infiltration of the costochondral junction, its surrounding intercostal spaces and its overlying musculature.

THE ANTERIOR ABDOMINAL WALL SYNDROMES

In the experience of this observer the most common locations of pain in the anterior abdominal wall syndromes are in the center of the lower quadrants and the superior margins of the upper quadrants of the abdomen. Here again the trigger area and the pain reference area overlie each other. The lower quadrant area is located close to McBurney’s point, or in the corresponding location on the left. The upper quadrant areas are located along the costal margins at the conjoining of the cartilages of ribs eight, nine and ten in an area adjacent to that involved in the costal margin syndrome. The difference between these syndromes is more than a semantic one, since the abdominal syndrome seems to be mainly muscular in origin, while the costal margin syndrome seems largely connective tissue in origin.

The differential diagnosis of the abdominal wall syndrome includes the entire spectrum of gastrointestinal disease. Its pain is differentiated most characteristically by its continuity, its lack of relation to ingestion of food or to evacuation, and sometimes by its relation to motion. The patient can often describe the pain as being in the abdominal wall if he is specifically asked about the depth of the pain.

The abdominal wall syndromes can be easily differentiated from visceral pain syndromes by physical examination. The painful area is compressed rather firmly beneath a single finger or thumb, with sufficient pressure barely to pass the threshold of pain. The patient is then asked to raise both legs straight, causing both heels to leave the examining surface by a distance of a few inches only. The resultant contraction
of the abdominal wall will push the examining finger away from the viscera and simultaneously increasingly compress the abdominal wall beneath the finger. If, on this maneuver, the pain increases it is of abdominal wall origin; if it decreases it is of visceral origin.

Sometimes the muscular area will overlap the tender visceral area — as in an upper wall syndrome overlying a peptic ulcer. In such cases the duality of pain etiology will also be apparent by using the above maneuver.

Treatment is by injection with an anesthetic agent and Hydrocortisone. The results of therapy will depend even more than in other syndromes on the accuracy of injection. The injection is made through all the layers of the abdominal wall in which the operator feels safe with his needle. An attempt is made to deposit the solution at each fascial layer and in each muscular layer of the involved portion of the abdomen. If tenderness has not disappeared after injection, the area should be re-entered and re-infiltrated.

THE PELVIC FLOOR SYNDROMES

The pelvic floor syndromes are among the most controversial of the myofascial pain syndromes. Thiele, one of the original collectors of cases of these syndromes, reports them as a common cause of coccygodynia. In addition to coccygodynia, myofascial affections of the pelvic floor may produce pain in the buttock, under the sacrum, in the lateral portions of the hip, or in the posterior thigh.

There are certain characteristics common to the pain of the pelvic floor syndromes regardless of the area to which the pain is referred. The most common complaint is an inability to sit comfortably on hard surfaces, or even on soft ones for prolonged periods. The patient must shift his position often and tries to keep his weight off the area of referred pain. Not only is it painful to remain sitting, but it is also painful to go through the motion of standing up or sitting down. Sudden twists of the pelvis or hips (as in changing direction during walking) may cause acute exacerbations of pain for days. Defecation may be painful, but this symptom is not a necessary criterion for diagnosis. These syndromes do not seem to be a cause of dyspareunia.

Trigger areas for the pelvic floor syndromes may be closely localized or may involve most of the pelvic floor. The muscles involved include the piriformis, the coccygeus and the levator ani. Involvement of the muscle can be identified not only by the soreness encountered on digital rectal examination, but also by a tight, fibrous, nodular feel of the involved muscle. I am not certain that differential radiation of pain from these several muscles can be predicted; however, in general the piriformis sends its pain directly under the sacrum to the coccyx, or down the back of the thigh, while the levator and coccygeus send their pain centrally to the coccyx or laterally to the buttock or hip. Primary involvement of the piriformis can often be identified by tenderness in the buttock externally over the greater sciatic notch.

Secondary neural involvement is reported to occur in the piriformis syndrome in a manner analogous to that of the scalenus anticus syndrome. Involvement of the piriformis by a myofascitis may involve the contiguous sacral nerves (one, two and three) or the main trunk of the sciatic. Some cases of "sciatica" may thus be due to piriformis myofascitis.

Certain characteristics of these syndromes help differentiate them from primary neurologic lesions, such as herniated discs, cord tumors, and osteoarthritic nerve com-
pression syndromes. These characteristics include the early appearance of pain on straight leg raising, the common presence of a gelling phenomenon in the affected hip, and a close correlation of reproduction of pain on palpation of the affected muscles. Tense persons seem to have a predilection to the development of these disorders. In all cases except the secondary manifestations of the piriformis syndrome there are no changes in reflexes, motor or sensory findings, or bowel and bladder control.

Massage is the easiest method of treatment and is the treatment of choice in most cases. It is carried out in a manner similar to prostatic massage, with deep centripetal strokes repeated slowly for one or two minutes over the involved area. The patient is expected to have pain during the massage, usually with reference to the site of spontaneous pain. A course of four to eight massages (given once or twice weekly) usually suffices to produce a remission and often a cure.

Injection is the treatment of choice only in specific cases. These include (1) those refractory to massage, (2) those involving the piriformis too far laterally to be reached per rectum, and (3) those involving the levator or the coccygeus close to the coccyx, and having small trigger areas. The latter can be easily injected by the clinician using a bimanual method, palpating per rectum to check the position of the needle tip.

The upper reaches of the piriformis are unassailable by either injection or massage. Injection of the lateral reaches is carried out in this institution by the Anesthesiology Division.

THE ADDUCTOR LONGUS SYNDROME

This syndrome is worthy of mention mainly because of its confusion with osteoarthritis of the hip. The pain produced in the two diseases is quite similar and the differential diagnosis is made primarily by physical examination.

The pain of the adductor longus syndrome is located in the medial thigh near the groin, and/or along the medial stretches of the inguinal ligament and its proximity. Pain radiates usually along the medial or anterior thigh superficially to the knee. It is increased by weight-bearing or especially by sudden twists of the hip. It is often accompanied by a gelling phenomenon.

The pain of degenerative arthritis of the hip is usually deeper in the groin and is more likely to be referred laterally than medially. If it is referred to the knee it is more often deep in the knee.

The adductor longus trigger point is identified by tenderness at the origin of the adductor longus and in its upper three or four inches below the origin. This muscle is palpated easily as the major component of the adductor ridge along the medial, upper thigh.

The treatment of the adductor longus syndrome combines injection with decreased weight bearing. The patient must be given crutches or a carefully graded walking program. Continued weight bearing will defeat or prolong the injection program; one twist of the hip can set treatment back to the beginning.

Injection must be made deeply and carefully, beginning with the more tendinous portions of the muscle near its origin and infiltrating widely the belly of the muscle below the origin. This is one of the more gratifying myofascial pain syndromes to treat when isolated. However, it unfortunately often occurs as a secondary finding in the presence of osteoarthritis, compounding the difficulty of diagnosis and partially frustrating treatment. Treatment is nevertheless worthwhile even if there is underlying hip pathology.
SUMMARY

The myofascial pain syndromes constitute an interesting and often undiagnosed group of disease entities. Their recognition is dependent on common characteristics of symptoms, including aching pain, weather effect, tiring effect, and the gelling phenomenon. They usually respond favorably to a therapeutic program including local heat, salicylization, injection with hydrocortisone anesthetic solutions, ethyl chloride spray, massage, environmental manipulation, steroids, stretching, or the relief of tension—in the appropriate combination.*

*Since the publication of the first of this series six months ago, further experience has produced two modifications of therapy: (1) There is no apparent contraindication to direct mixing of Procaine Hydrochloride and Hydrocortisone Acetate. The mixture used in this clinic is 25 mgm (1 cc) of Hydrocortisone suspension in 9 cc of 1% Procaine Hydrochloride. (2) Increased therapeutic efficacy of salicylization may be produced by the concomitant administration of Flexin (Zoxazolamine)—250 to 500 mgm orally three or four times daily. Flexin may be tried alone in the same dosage. Its efficacy in either case is not proven.

BIBLIOGRAPHY