

Low Back Pain and Episacral Lipomas

A cause of low back pain and disability often overlooked by practitioners who treat patients suffering from acute and chronic musculoskeletal complaints is the episacral lipoma. Although usually thought of as a minor condition, it is capable of producing considerable low back pain.

First described by Ries in 1937,¹ episacral lipomas are small, tender, "tumor-like" nodules occurring mainly over the sacroiliac region which can cause disabling low back pain. The term "lipoma" is descriptive only in that through direct palpation over the region, the examiner is able to detect a subcutaneous mass similar to the benign tumors; however, it is not a tumor, but is subfascial fat which has herniated through the overlying fascial layer.

Perhaps a better term is that of the lumbar fat herniation as described in 1944 by Copeman and Ackerman.² In their research, they reported 10 cases of severe and disabling low back pain in which they identified the fatty tumors as the principle cause of the patient's complaints. They subsequently excised the herniation, which produced striking relief of the pain. In 1945, Hertz reported the cases of six women with excruciating low back pain.³ All of the women had a history of a traumatic strain prior to its occurrence of, which was sometimes accompanied by unilateral leg pain. The low back pain in all six women was dramatically relieved by the removal of a herniated fat tumor.

In a followup study by Copeman and Ackerman, 11 new cases were described.⁴ In all 11 patients, a biopsy confirmed the presence of edematous fat lobules herniating through deficiencies of the fibrous compartments. It was felt that the pain was produced in the fibro-fatty tissue and not in the musculature itself.

Hucherson and Gandy reported in 1948 that of 32 patients who had undergone surgical removal of the lipoma, only two patients failed to experience relief of pain.⁵ Many other researchers have reported that in patients with backaches and occurrence of the nodules, relief was obtained immediately by injection of a local anesthetic and some by operation. At times, dramatic relief was obtained, and there was no recurrence of pain over time.^{6,7,8,9} In a study by Singewald,¹⁰ 1,000 persons were evaluated for lipomas. They were found in 16% of the subjects; however, only 10% had reported back pain. Therefore, it is not an uncommon finding in the general population, although it is usually asymptomatic.

Fat herniations occur in predictable sites along the edge of the sacrospinalis muscle just above the iliac crest, very close to the natural "dimple" in the sacroiliac area.¹⁰ In this area, through abnormal tension, trauma, or by inherent weaknesses of the fascia, as well as through foramina for cutaneous nerves, the underlying fat pad may herniate through the fibrous tissue between the superficial and deep layers. Copeman and Ackerman⁴ mapped the basic fat pattern of the lumbar region from 14 cadaver studies with reference to the most common sites for the occurrence of fat herniations, which were felt to be extremely corresponding. The researchers reported that during dissections, it was not uncommon to find the fascia to be of non-uniform thickness. They also found

actual deficiencies of the fascia in which underlying fat tended to bulge through.

In addition, they were able to describe three basic types of herniations: pedunculated, nonpedunculated and foraminal. The nonpedunculated hernia appears as a tense swollen nodule, which protrudes frequently along the iliac crest. Pedunculated hernias have the appearance of a strangulated polyp through the fascia connected by a fibrous pedicle. In the foraminal type, the fat herniates through the foramina containing the cutaneous branches of the posterior *rami* of the first three lumbar nerves as they pierce the deep fascia after leaving the body of the muscle. A horizontal fold of membrane acts as a valve that prevents the herniation from occurring during flexion of the back; however, a failure to function normally may result in a herniation. Of the three, the nonpedunculated herniation appears to be the most common. Biopsy of the specimens revealed that they were composed entirely of normal adipose tissue with some edema present. In some cases, there was evidence of patches of fibrous tissue growing in the fatty tissue and others with nerve tissue present; however, this has not been a consistent finding. From a clinical standpoint, the mechanism of pain is not fully understood; however, pain appears to be the primary feature, which seems to be due to the expansion of the fat herniation in the otherwise unyielding fibrous capsule, in that removal of the lipoma alleviates the pain.

The pain pattern of the fat herniation originates in a focal region; however, it may radiate in an ill-defined distribution and may be variable in intensity and duration.⁹ Upon palpation, the patient is usually able to describe the exact point of extreme, or pinpoint, tenderness. It is different from a trigger point as described by Travell¹³ in that the examiner can palpate a definite mass rather than a taut band of skeletal muscle. However, like a myofascial trigger point, firm pressure may produce pain that radiates in a general and segmental distribution.¹¹

Depending upon the severity of the pain, there may be a restriction of the lumbar range of motion, and the pain may increase with positioning.⁹ There may well be a significant degree of paraspinal muscle spasming which may also be related to the referred pain, as well as the nature of the original incident.² No specific structural abnormality of the spine has been identified. Nerve root traction tests are usually normal, with a production of primarily low back and sacral pain upon testing, unless there is a concomitant disc herniation.⁸ Reports of pain radiating down the side affected with the lipoma are frequent; however, there is no uniformity of the radiation area.⁵ Diagnosis is usually confirmed by the injection of local anesthetic, which significantly alleviates the pain, at least temporarily.¹²

The posterior elements of the lumbar spine are innervated by branches of the lumbar dorsal *rami* separate from conditions produced by the intervertebral disc, referred pain or syndromes mediated by other nerves.¹⁴ Any structure innervated by the lumbar dorsal *rami* is potentially capable of being a primary source of mechanical pain, including the zygapophyseal joints, ligaments, muscles and their fascia. Included in these possible sources are: strains; disc disease; degenerative arthritis; facet syndrome; spondylosis; spondylolisthesis; and subluxations. Psychogenic and iatrogenic disorders must be further ruled out.

It is reasonable to assume that due to the nature of the pain, heat, massage and manipulation would be the treatment of choice, with steroid injections reserved for primarily diagnostic purposes, and surgery as last resort. The typical patient as described by Singewald, however, presents with unilateral low back pain, some radiation of pain to the buttock or thigh, and a fairly long history of symptomatology. Furthermore, having had evaluations by medical, chiropractic,

acupuncture, gynecological, and other health specialists, and with negative x-rays or other diagnostic studies, the patient finds no relief from the traditional forms of physiotherapy. No studies from a purely chiropractic standpoint have been submitted as to whether or not manipulation of the pelvis, sacrum or vertebrae provide any significant relief.

Current Case Study

A 39-year-old male was referred to the clinic for evaluation of a work-related injury to his low back. His presenting complaints were low back pain radiating to the left lower extremity. He had previously been seen by a chiropractor but had not responded to manipulation. Due to signs of neurotraction, an MRI was obtained, revealing multilevel disc bulges with obscuration of the left L5-S1 nerve root. Nerve conduction and EMG testing were then performed, revealing chronic denervation of the left L5-S1 nerve root.

The patient was referred to an orthopedic surgeon and subsequently underwent lumbar laminectomy and discectomy. Following surgery, as well as a prolonged course of physical therapy and exercise rehabilitation including ultrasound, iontophoresis and EMS, the patient stated that overall, his leg pain had resolved; however, he continued to experience low back pain which was aggravated by lying supine, as well as flexion and bending. He approximated that 30% of his pain remained in his low back. When asked to point to the greatest area of pain, he pointed to the left episacral region with radiation to the hip.

Palpation revealed a hard nodule of approximately two centimeters in diameter directly overlying the PSIS. Firm pressure reproduced complaints of low back pain. A second nodule was palpated on the opposite side; however, this was asymptomatic. He was then prepped for injection of a mixture of dexamethasone and zylcaine. Upon injection, he experienced immediate relief of the low back lasting between 2-3 hours. In addition, he was able to forward-flex at the waist without difficulty. Subsequent injections also alleviated pain for 2-3 hours, but no permanent relief was obtained. Due to his postsurgical status, no forceful spinal manipulation was attempted.

Although absent from most differential diagnoses, which have a tendency to show a strong preoccupation towards the discs and vertebrae, the episacral lipoma is fairly common, with symptomatology similar to other conditions. As this case shows, the episacral lipoma may account for a significant degree of pain in patients with mild disc bulges, even in those patients who require low back surgery, and may account for the prolonged pain symptomatology following surgery.

It is apparent that residual pain from the lipoma may be aggravated by prolonged bedrest and certain movements. For doctors of chiropractic, the episacral lipoma may be significant in a portion of the general population. Are these patients the ones who complain of intractable low back, and have tried the gamut of conventional medical treatment, only to miraculously respond to manipulation; or are these patients considered the chiropractic failures in that manipulation will not repair a fascial tear or reduce a herniated lipoma? Is it possible that sacroiliac joint dysfunction, pelvic unleveling or vertebral subluxation is somehow predisposing to the herniation, due to altered biomechanics, which may add more tension to the fascia?

To date, research in the chiropractic profession is lacking, and no published studies have been recorded. According to published medical studies, the treatment of choice is injection, with excision of the lipoma and repair of the fascial wound occurring in severe cases. The cases and history have been thoroughly duplicated many times from a medical standpoint.

The episacral lipoma should be considered more often in the workup and differential diagnosis of acute and chronic low back pain, especially in instances of work-related injuries owing to the

traumatic nature of the herniation. Furthermore, it is a condition in which doctors of chiropractic and medical doctors may have much to gain for their patients for inter-referrals.

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