

## In Search of the 'Back Mouse'

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The "back mouse" is a tender, fibrous, fatty subcutaneous nodule found in the lumbosacral area in up to 16% of people. It can be a treatable cause of low back pain that may be unrecognized by both specialists and generalists.

*Key words:* Backache; physical examination; lipoma; fibroma.

(*J Fam Pract* 1993; 36:657-659)

Low back pain is one of the most common problems seen by generalist physicians. It often frustrates both patient and physician, particularly when the problem becomes recurrent or chronic. One of the aspects of this frustration for generalists can be the clinical focus of other specialists who provide care for low back pain. Orthopedists are mainly interested in vertebrae, discs, and joints; neurologists in lumbosacral nerves and myopathies; and rheumatologists in inflammatory arthritis and immunological problems. Many physicians hold to the widely accepted view that most back pain, apart from prolapsed intervertebral disc, has nonspecific causes, and therefore management may be nonspecific.<sup>1</sup> A different perspective on low back pain is shared by a number of physiatrists, physical therapists, chiropractors, osteopathic physicians, and some clinicians (including myself) who believe that many cases of back pain are the result of specific mechanical and disease processes of muscle, joint, disc, and fascia in the lumbosacral region.

This brings me to the syndrome caused by the "back mouse"—a nonfibrositic subcutaneous nodule. The name "back mouse" describes its significant mobility under the skin or muscle, its rubbery consistency, and its ability to change size over time. This condition was first described and designated by Ries in 1937 as an *episacroiliac lipoma*.<sup>2</sup> After one case of severe low back pain caused by a tender nodule that was successfully excised, he examined, in a

descriptive study, a nonrandom sample of 250 men and 750 women recruited from dispensaries, hospitals, and other settings. Of these, 309 had backache and 317 had nodules (31.7%). Of the 317 patients with nodules, 150 complained of backache and 131 complained of the nodules themselves being painful. Nodules were bilateral in 86 cases. There was no correlation of nodules with body mass or adiposity. Treatment consisted of local anesthetic injections or surgical excision.

Copeman and Ackerman<sup>3</sup> estimated that these nodules occurred in 10% of the population, while Singewand<sup>4</sup> estimated 16%, of which only 10% were symptomatic. All authors commented on the multiple referrals and evaluations of patients with this problem who were treated by physicians who were generally unaware of the existence of these nodules.

In my own experience, "back mice" are commonly found in people aged 25 to 65 years. During routine physical examinations, I have found back mice in about 25% of women. These nodules are usually painless but can become symptomatic.

### Illustrative Cases

#### Case 1

A 60-year-old woman underwent replacement of the right hip joint for progressive osteoarthritis. Two weeks after surgery, she complained of pain in the right leg radiating from the knee to the foot. Clinical examination showed pain-free hip movement, and the patient's orthopedist was unable to offer an explanation. Analgesics

Submitted, revised, December 24, 1992.

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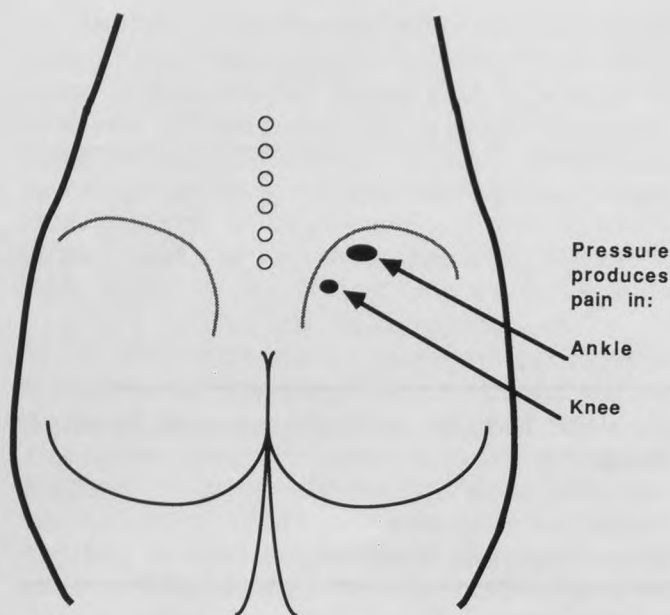


Figure 1. A 2-cm nodule and a smaller, grape-sized nodule found in a 60-year-old woman suffering from pain in her right leg (case 1).

were administered but provided little relief. Careful palpation of the lumbosacral area revealed a very tender 2-cm mobile, rubbery nodule that was deep in the subcutaneous tissue, just below the right iliac crest, about 2 in. lateral from the sacroiliac joint (Figure 1). Direct pressure on this nodule produced severe pain in the right ankle. It was treated with multiple needle punctures using a spinal needle, and the pain was completely relieved within a few hours. Four weeks later, the patient complained of continuous pain in the right knee, which became more severe when she was sitting or climbing steps. On repeat physical examination, a smaller nodule (grape size) was detected, more deeply located than the first, just lateral to the right sacroiliac joint. Pressure on the nodule produced pain in the patient's knee. Treatment similar to that for the first nodule was effective. Both "back mice" became smaller and softer after multiple punctures.

### Case 2

A 36-year-old woman who was a dedicated long distance runner came to the office complaining of persistent and worsening pain in the calf of her left leg over a 4-month period. She also had mild back pain that developed toward the end of her daily run. However, she was pain free during other activities. Findings on clinical examination of her back, joints, and legs were completely normal except for a grape-sized, exquisitely tender nod-

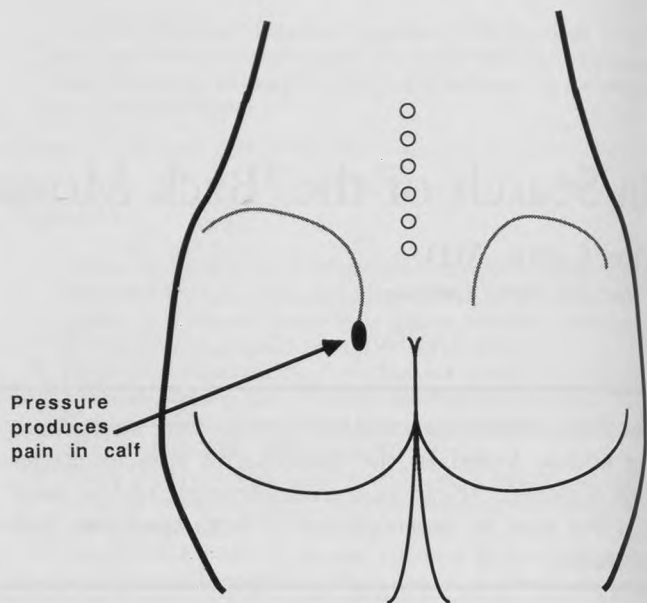


Figure 2. Grape-sized, tender nodule found in a 36-year-old woman suffering from pain in the calf of her left leg after running (case 2).

ule located deep in the tissues, lateral to the left sacroiliac joint (Figure 2). Direct pressure produced pain in the left calf. Multiple puncture technique with injection of 2 mL of 1% lidocaine produced relief by the next day; there were no recurrences.

## Discussion

Subcutaneous lumbar nodules are different from myofascial trigger points, although their locations may be similar.<sup>5</sup> The nodules are said to consist of adipose tissue separated by fibrous septa, surrounded by a firm fibrous capsule.<sup>2,3</sup> They are distributed inferiorly along the iliac crests, over and around the sacroiliac joints, and at the edges of the sacrospinalis muscle (Figure 3). As a result of dissections in cadavers and biopsies, Copeman and Ackerman<sup>3</sup> indicated that these nodules were the result of herniations of fatty tissue through the neurovascular foramina from the deep fascia into the superficial fascia. Herz<sup>6</sup> believed that a vascular compression effect occurred when the muscles of the back were contracted. Pressure on these nodules produces the sclerotomal pain referral patterns that are also seen with myofascial syndromes, and which often confuse clinicians into thinking that the problem is nerve root compensation.<sup>7</sup> Recently Swezey<sup>8</sup> reported on his case series of 126 patients in a private rheumatology practice. He noted that 26% had lumbar nodules occurring either singly or in clusters. Only 17% of these nodules were tender, and his view was

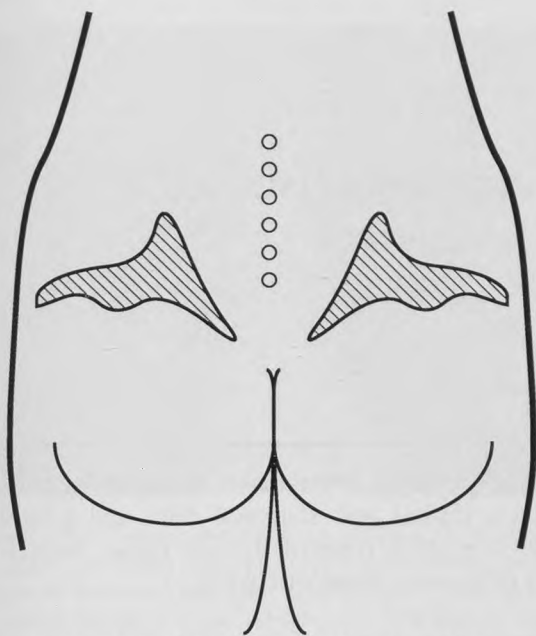


Figure 3. The areas where subcutaneous fat nodules are typically found. Adapted from Copeman and Ackerman.<sup>3</sup>

that it was the underlying sacroiliac joint or tissue that was the cause of pain rather than the nodule itself. I do not agree with this opinion because specific treatment of the nodule has produced symptomatic relief in numerous cases.

More careful palpation of the lumbosacral area will enable clinicians caring for low back problems to identify these nodules quite easily. The nodules lie in the deep subcutaneous tissue layer. There may be one or more lying close to each other. The nodules usually cannot be detected by visual inspection. They can be quite mobile (hence the term "back mouse") and are often pushed aside and missed by a prodding palpatory finger. The best technique for detection is similar to that used for examining the breast, with the flat surface of the fingers using firm pressure. If a patient has local and referred pain, but little or no vertebral dysfunction or neurologic deficit is found, a painful "back mouse" may be the cause. It is important to realize that these nodules can occur in conjunction with other low back syndromes.<sup>9</sup> As one low back syndrome improves, the patient may complain that the pain has simply "moved" to a different place. In such cases, a back mouse may be the culprit!

The successful treatment with multiple punctures, based on Copeman and Ackerman's original work, implies a mechanical or pressure distention cause.<sup>3</sup> This

distention and the associated pain are relieved by dry needling. For this procedure, a medium- or wide-bore sterile needle is attached to an empty syringe. The patient's skin is cleansed with alcohol or povidone iodine, and the nodule is stabilized with two fingers. Using the syringe as a stabilizer, the needle is passed through the skin and into the nodule. The clinician can usually feel the needle breach the fibrous tissue. Keeping the needle under the skin, the nodule is punctured in four to ten different places. After withdrawing the needle, firm pressure is maintained over the site for about 30 seconds. For obese patients, a spinal needle may need to be used. Patients may complain of worsening of symptoms during the first few hours after the procedure, so some clinicians use 1% lidocaine during the puncturing process. Administration of lidocaine and corticosteroids or ultrasound therapy also can be helpful in reducing local edema and inflammation.<sup>9</sup> There have been no randomized, controlled trials of the management of subcutaneous lumbar nodules.

There is almost no recent scientific literature on this subject other than small sections in rheumatological textbooks, in which appropriate therapy is reviewed, and older descriptive case series. All the literature is descriptive in nature.

The "back mouse," therefore, remains a clinical cause of back pain for some and a nonexistent or unproven cause of back pain for others. I suggest clinicians search for these nodules and decide for themselves.

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