

lems (government regulations of medical practice, paperwork, concern for malpractice, third-party payers, regulatory agencies) were not directly related to the care of patients. Diagnosis, therapy and the doctor-patient relationship—the essential core of medical practice—ranked respectively 24, 25 and 26 in frequency among 26 categories. Physicians thus seem to be concerned primarily by nonmedical problems. The weight of these nonmedical problems in practice may be barriers to optimal patient care by distracting physicians from the performance of their primary mission.

REFERENCES

1. Brown CR Jr, Fleisher DS: The bi-cycle concept—Relating continuing education directly to patient care. *N Engl J Med* 1971 May 20; 284 (Supplement):88-97
2. Williamson JW, Alexander M, Miller GE: Continuing education and patient care research—Physician response to screening test results. *JAMA* 1967 Sep 18; 201:118-122

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Information

Treatment of the Chronic Iliolumbar Syndrome by Infiltration of the Iliolumbar Ligament

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THIS STUDY ATTEMPTS to establish the respective value of local infiltrations with lidocaine alone and lidocaine mixed with dextrose in the treatment of the chronic iliolumbar syndrome (ILS).

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This syndrome has been described as a distinct low back pain syndrome with typical unilateral findings of low back pain produced by the hip flexion test and the Patrick test.¹ There is also an exquisitely tender point at the posterior iliac crest. The chronic form of this syndrome responds very poorly to the common methods of treatment of low back pain such as rest, analgesics, heat and other forms of physical therapy, and it is frequently aggravated by pelvic traction. Whether or not the patient is treated, there are remissions and exacerbations which may continue for a lifetime. Many patients complain of a constant ache that is aggravated by prolonged sitting and standing. The onset frequently follows a lifting accident or a fall.

Most likely the chronic ILS is the result of soft tissue injuries to the iliolumbar ligament and constitutes the most common form of low back sprain. However, sometimes it is found to be associated with a radiculopathy and some authors believe that all backache is discogenic in origin. The clinical features have also been attributed to a facet syndrome in the lower dorsal area.² For this reason we prefer the word "syndrome" to "sprain."

Historical Review

Therapeutic Use of Local Anesthetics

As early as 1930, Leriche pointed out that after infiltration of a tender ligament or tendon with procaine there was not only temporary relief of discomfort but a more prolonged effect than what one would expect from the anesthesia. After repeated infiltrations of the painful tendon or ligament with procaine, Leriche actually reported complete recovery.³ In the United States this method was first described by Steinbrocker.⁴ Travell in numerous publications has reported relief of musculoskeletal pain in many areas of the body by the infiltration of "trigger points" with procaine.⁵⁻⁷ Travell's explanation of this therapeutic effect is that the anesthetic breaks a chronic pain cycle. More recently Steinbrocker preferred the use of lidocaine because of its prolonged effect and lesser chance of allergic reaction.⁸

Therapeutic Use of Sclerosing Agents

The use of hypertonic dextrose is an outgrowth of the theory of musculoskeletal pain developed by Hackett.⁹ This author postulates that the pain is caused by a microscopic tear in a ligament or

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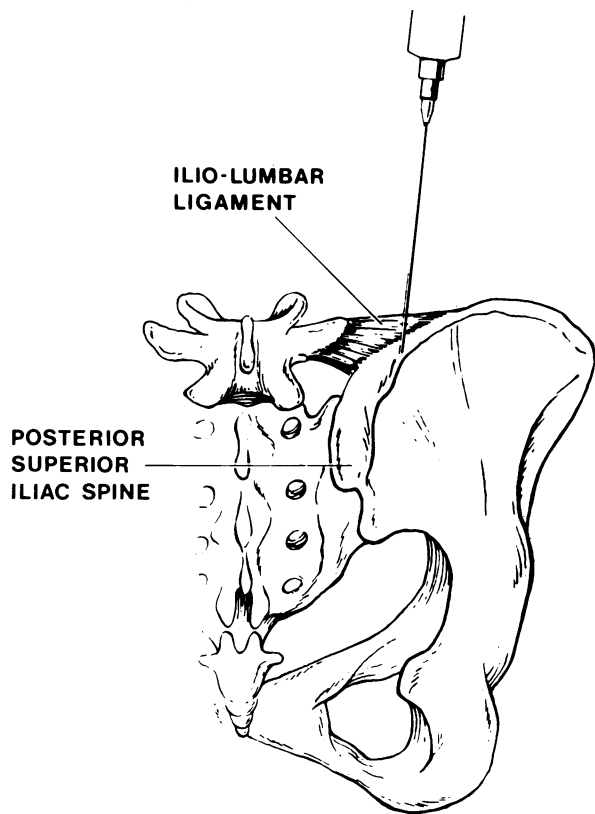


Figure 1.—Site of infiltration of the iliolumbar ligament. (Reproduced with permission from Hirschberg et al.)

tendon at the attachment to the bone. Repeated infiltrations of this area with a sclerosing agent cause acute inflammation followed by sclerosis which repairs the gap in the ligamentous or tendinous attachment. Lidocaine is added to avoid the pain caused by hypertonic dextrose. This method is used by only a small number of physicians.

Patients and Methods

Patients

The study involved patients with proved chronic iliolumbar syndrome. They had the chief complaint of low back pain that had lasted at least three months. The group consisted of 13 women and 3 men, and ranged in age from 19 to 80 years old. Nine patients were treated with lidocaine alone and seven with a mixture of lidocaine and dextrose. All patients had a diagnostic workup which consisted of a history, a complete general medical examination and a specific low back examination to determine the diagnosis of iliolumbar syndrome. They also had a radiologic assessment of the lumbosacral spine and laboratory

TABLE 1.—Patients Treated With Lidocaine Only

Patient	Age	Sex	Duration of Pain (months)	Number of Treatments	Results
1	32	♀	24	5	Good
2	53	♀	9	6	Good
3	25	♀	14	6	Poor
4	45	♀	9	6	Poor
5	42	♀	24	6	Poor
6	80	♀	36	4	Good
7	24	♂	14	6	Poor
8	55	♀	3	4	Good
9	58	♀	48	6	Poor

TABLE 2.—Patients Treated With Lidocaine and Dextrose

Patient	Age	Sex	Duration of Pain (months)	Number of Treatments	Results
1	63	♀	36	4	Good
2	53	♀	24	6	Good
3	36	♂	14	6	Good
4	28	♂	84	6	Poor
5	56	♀	8	6	Good
6	60	♀	36	6	Good
7	66	♀	60	6	Good

studies to rule out a systemic rheumatic disorder. Patients were included in this study if they had no clinical or laboratory evidence of a specific pathologic condition and the clinical findings consisted of unilateral low back pain that could be produced by the hip flexion and Patrick tests and that disappeared following infiltration of the appropriate iliac crest with lidocaine.

Technique of Treatment

The site of injection was the posterior iliac crest as shown in Figure 1. The patients in group 1 received 5 ml of 1 percent lidocaine solution while the patients in group 2 received a mixture consisting of 2½ ml of 2 percent lidocaine and 2½ ml of 50 percent dextrose solution. Five minutes following the injection the hip flexion and Patrick tests were repeated and found to be negative. This was done to verify the accuracy of the injection.

Evaluation of Results

The patients were evaluated at the end of the treatment period and again after six months by a member of the team who had not treated them. The results were rated “good” if the following criteria were met: (1) The patient claimed pronounced improvement. (2) The patient was able to carry out all activities of daily living with

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minimal or no discomfort. (3) The patient required no pain medication for low back pain. (4) The tests for iliolumbar syndrome were negative.

The results were rated "poor" if one or more of the above criteria were not met.

Results

The results are presented in Tables 1 and 2. Of the nine patients who received lidocaine alone four had a good result. Of the seven patients who received lidocaine and dextrose all except one had a good result. Altogether 10 patients out of a total of 16 recovered.

Discussion

Considering the resistance of the chronic iliolumbar syndrome to treatment the total result of ten recoveries among 16 patients is encouraging. It shows that treatment by injection is superior to medication and physical therapy that these patients have had in the past. As to the relative merits of lidocaine alone as compared with lidocaine with dextrose the findings suggest a superiority of treatment with dextrose but a larger number of cases will be needed to provide definitive findings.

Unfortunately, treatment with dextrose has been discouraged for two reasons. Some physicians dispute its effectiveness, though no study to support this contention has been found by us. Furthermore, this treatment has been considered dangerous. Hackett originally used phenol to produce a sclerosing effect. Several accidents were reported resulting from injection of phenol into the subarachnoid space while the physician tried to infiltrate a spinal ligament.¹⁰⁻¹² This has led to

a condemnation of Hackett's method as an unsafe procedure. To our knowledge no untoward effect has ever been reported when hypertonic dextrose is used as a sclerosing agent.

Summary

A total of 16 patients with chronic iliolumbar syndrome who had been symptomatic and disabled for three months or more were treated by a series of infiltrations of the iliolumbar ligament. Nine patients were treated with lidocaine alone and seven with lidocaine and dextrose. The overall response was a significant recovery in 10 patients out of 16. Six of the seven patients treated with lidocaine and dextrose recovered, but only four of the nine treated with lidocaine alone recovered. The potential risks of dextrose therapy are discussed.

REFERENCES

1. Hirschberg GG, Froetscher L, Naeim F: Iliolumbar syndrome as a common cause of low back pain: Diagnosis and prognosis. *Arch Phys Med Rehabil* 1979 Sep; 60:415-419
2. Maigne R: Low back pain of thoracolumbar origin. *Arch Phys Med Rehabil* 1980; 61:389-395
3. Leriche R: Des effets de l'anesthésie à la novocaïne des ligaments et des insertions tendineuses péri-articulaires. *Gazette des Hôpitaux* 1930; 73:1294
4. Steinbrocker O: *Arthritis in Modern Practice*. Philadelphia, WB Saunders Co, 1941
5. Travell J, Rinzler SH: The myofascial genesis of pain. *Postgrad Med* 1952; 11:425-434
6. Travell J, Rinzler SH, Herman M: Pain and disability of the shoulder and arm—Treatment by intramuscular infiltration of procaine hydrochloride. *JAMA* 1942; 120:417
7. Travell J, Travell W: Therapy of low back pain by manipulation and of referred pain in the lower extremity by procaine infiltration. *Arch Phys Med* 1946; 27:537-547
8. Steinbrocker O, Neustadt DH: *Aspiration and Injection Therapy in Arthritis and Musculoskeletal Disorders*. New York, Harper and Row, 1972
9. Hackett GS: *Ligament and Tendon Relaxation Treated by Prolotherapy*. Springfield, IL, Charles C Thomas, 1958
10. Hunt WE, Baird WC: Complications following injection of sclerosing agent to precipitate fibro-osseous proliferation. *J Neurosurg* 1961; 18:461-465
11. Keplinger JE, Bucy PC: Paraplegia from treatment with sclerosing agents. *JAMA* 1960; 173:1333-1335
12. Schneider RC, Williams JJ, Liss L: Fatality after injection of sclerosing agent to precipitate fibro-osseous proliferation. *JAMA* 1959; 170:1768-1772