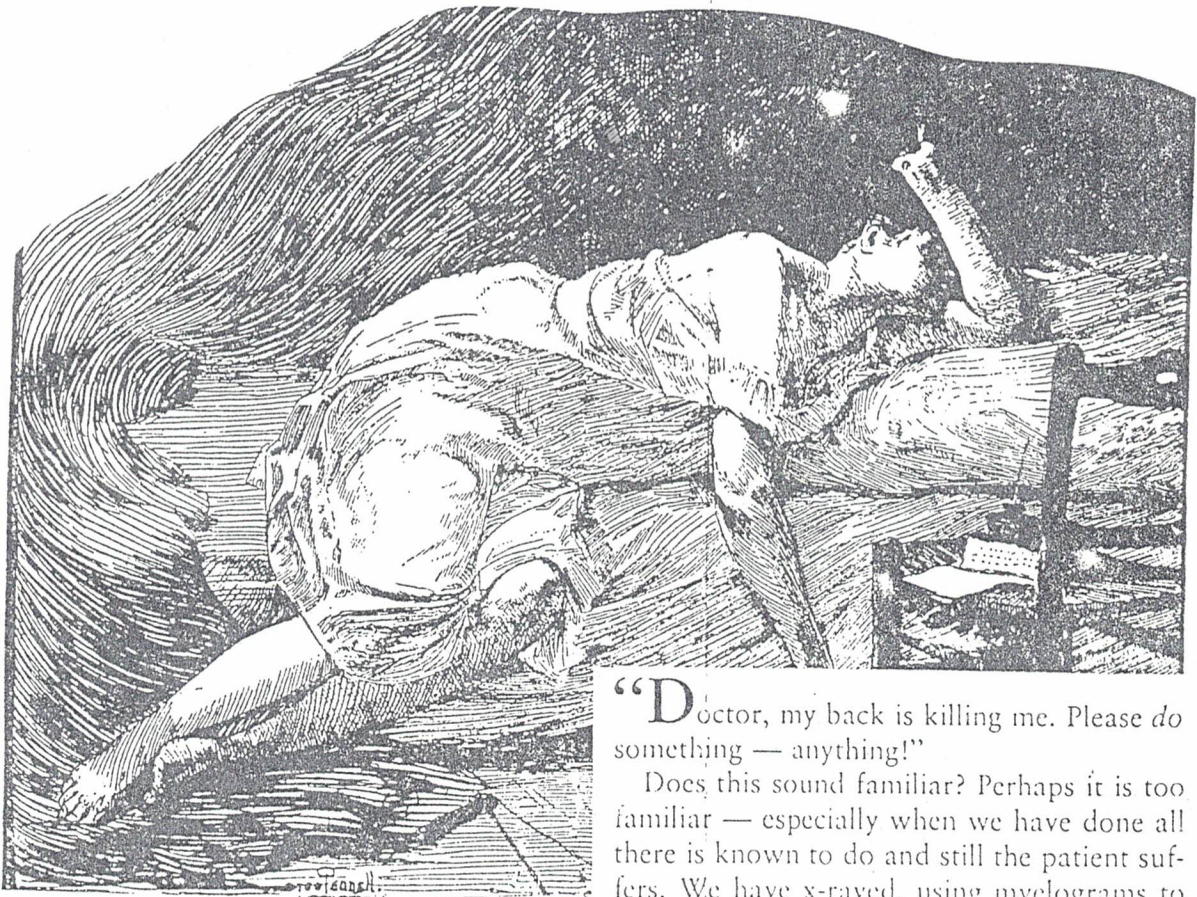


Treatment of Joint Pain

By CHARLES J. KOUDELE, D.O.

Sclerotherapy, often in combination with manipulation, provides a simple technique for relief of unstable, hypermobile joint problems.



“**D**octor, my back is killing me. Please *do* something — anything!”

Does this sound familiar? Perhaps it is too familiar — especially when we have done all there is known to do and still the patient suffers. We have x-rayed, using myelograms to

check for herniated disks, anomalies, and degenerative diseases. We have used traction to relax the back muscles; belts, corsets, and back braces to support them; and exercises to strengthen them. We have put the patient to bed for rest, and we have prescribed pain medication. But the patient returns with the familiar plea. Is surgery indicated? Here we hesitate.

We are well acquainted with the history of the "dead-end" patient — the person who has made the rounds seeking relief and has undergone disk laminectomies, spinal fusions, facet rhizotomies, segmental nerve blocks, ad infinitum. Still, for the great majority, pain persists.

Do we have no choice but to send the patient home, hoping that time will cure him and that he can learn to live with his problem? We think not. The responsible physician will give additional study to the anatomy of bony structures in order to better understand the relationship of nerves to muscles, ligaments, tendons, and bones. And from just such a study has developed a treatment that, though not at all new in its concept, has now been used widely enough to prove its effectiveness in alleviating or eliminating the suffering of such patients. That treatment is *sclerotherapy*, referred to in some medical circles as prolotherapy.

To understand the effectiveness of sclerotherapy, it is important to understand the mechanism of joint pain and the anatomy and physiopathology of ligaments and tendons. Ligaments, bands of white fibrous tissue parallel with or closely interlaced with one another, serve to connect the articular extremities of bones.¹ Richly supplied with sensory nerve endings, they produce pain when stretched beyond their physiologic limits; if severe and continuous, this yields "referred pain" following dermatome, myotome, and sclerotome patterns consistent and specific for each ligament and tendon.² When the reparative process is impaired or incomplete, the joint is referred to as "unstable" or "relaxed"

— a condition that may last for a few days, months, or years.

Tendons, anchoring muscle to bone, respond likewise to undue forces placed upon them. When injury occurs, tendons become weakened as muscle spasm and, later, fatigue develop.

Sclerotherapy is a method of treatment whereby a sclerosing solution is injected into these weakened or disabled ligaments, tendons, and soft tissues to permanently strengthen such structures by stimulating the

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formation of fibrous tissue cells. The site injected most frequently is at the fibro-osseous junction, where pain originates from sprains, tears, degenerative processes, or nutritional deficiencies.

Results obtained from physicians doing sclerotherapy indicate improvement rarely falling below the level of 80 per cent. Many report results as high as 90 per cent. Hemwall³ reports 85 to 90 per cent beneficial results in 2,039 patients.

continued



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Chase⁴ estimates that treatment has been successful in over 80 per cent of long-standing cases, such as chronic head, neck-and-shoulder, arm, and low-back syndromes. Myers,⁵ in a four-year follow-up period (1956-60), reported an 82 per cent cure for low-back disabilities — some diagnosed as “disk problems” and some as “sciatica.” Haws and Willman⁶ collaborated in a study of tissue specimens from 45- to 60-year-old patients with unstable backs who had been treated with three to five injections of a sclerosing agent. The results of their findings are presented in Figures 1 through 8.

Hackett, after much research into the causes and treatment of musculoskeletal disabilities — including many years of observation, clinical studies, and experimentation with animals and many more treating thousands of patients — sums it up simply: “A joint is only as strong as its weakest ligament.” He further observes that “back pain is ligament pain.”⁷

Injection is not advisable for every patient complaining of back pain. Often manipulation is all that is needed. A combination of sclerotherapy and manipulation is probably the best treatment a patient can receive for

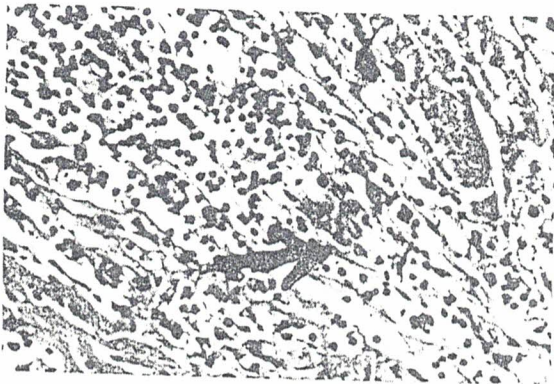


Figure 1. Area of early coagulation necrosis (arrow) surrounded by low-grade inflammatory infiltrate. Treatment was with dextrose formula solution. This is a rare finding and may well be contamination. (x100.)



Figure 3. Small zone of residual inflammatory cells in very dense collagen about six months after treatment with dextrose formula solution. (x100.)



Figure 2. Area of early collagen formation (arrows) surrounded by relatively undisturbed fascia. Treatment was with dextrose formula solution. (x40.)

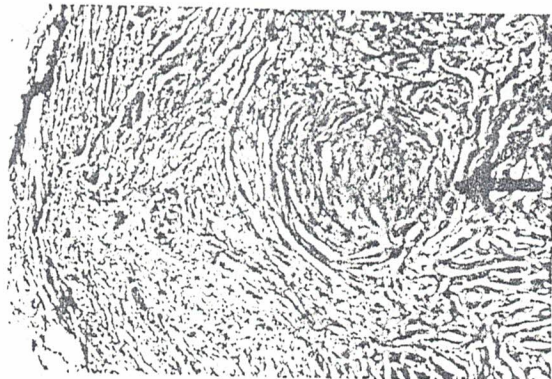


Figure 4. Dense whorl of scar surrounded by layers of collagen and fibrosis about 15 months after treatment with dextrose formula solution. (x40.)



Figure 5. Area of dense collagen and fibrosis with occluded blood vessels (arrow). Treatment was with dextrose formula solution. (x40.)

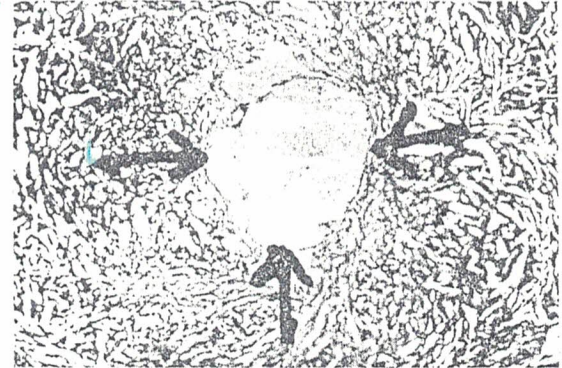


Figure 7. Area of ancient collagen and fibrosis surrounding a lake of pumice-solution residue. Note no foreign-body reaction. Treatment was with pumice solution. (x40.)

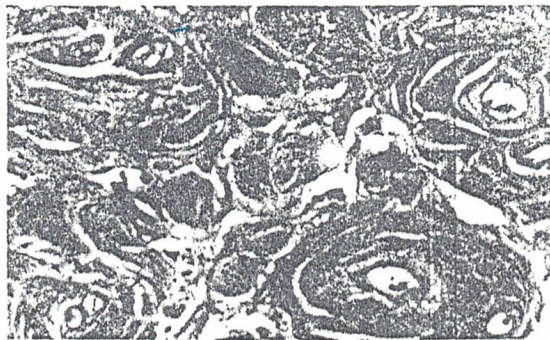


Figure 6. Same vessels as in Figure 5, showing severe adventitial and medial sclerosis with little intimal response. (x125.)



Figure 8. Lake of pumice-solution residue (arrow). Note refractility of pumice particles and relatively passive capsula formation. Treatment was with pumice solution. (x125.)

unstable, hypermobile joint problems — manipulation to correct and normalize, sclerotherapy to strengthen and stabilize.

The techniques of sclerotherapy are not difficult to learn. It is a simple procedure that can be done in the office. What is needed is a basic knowledge of anatomy and an understanding of the relative position of ligaments, tendons, and bones. Skill in the insertion of the needle into the desired area must be precise. This comes with practice. Additional

knowledge can be acquired from reading and in consultation with those already engaged in using it. The results depend on the diagnostic acumen and experience of the physician.

In the fast-changing field of medicine, it is refreshing to know that some phases of the healing arts are of permanent value. While every physician will always feel his own need for improvement, the basic concept for treating musculoskeletal disabilities with sclerotherapy has been established. □

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