ONE MINUTE CONSULT

BRIEF ANSWERS TO SPECIFIC CLINICAL QUESTIONS

Q: What is the appropriate treatment for Dupuytren contracture?

THOMAS R. HUNT III, MD
Head, Section of Hand Surgery, Department of Orthopaedic Surgery, The Cleveland Clinic

Treatment is either surgery or benign neglect

A: Current management is "binary": the diseased tissue is either watched with benign neglect or surgically excised. Therapy designed to "stretch" cords through exercise and splinting is uniformly unsuccessful. Although no effective medical treatments are available at present,[1] a recent phase 2, open-label trial of clostridial collagenase injections gave promising early results.[2]

FEATURES OF DUPUYTREN DISEASE

Few diseases of the hand are more distinctive than Dupuytren disease (FIGURE 1). The hallmark of the clinical presentation is firm nodularity or coalesced cords of tissue in the palm or digit or spanning the web spaces. The abnormal tissue is superficial and clearly associated with the skin and dermis.

Motion of the digit is painless and does not result in excursion of the mass, or in the clicking and locking one might see with stenosing flexor tenosynovitis (trigger finger).

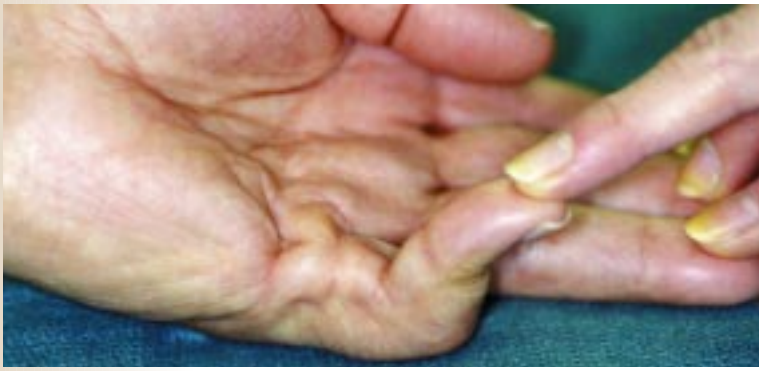

FIGURE 1. Dupuytren disease

This paper discusses treatments that are not approved by the US Food and Drug Administration for the use under discussion.

WHAT CAUSES DUPUYTREN DISEASE?

Though the diagnosis of Dupuytren disease is rarely in doubt, the cause remains unclear. Susceptibility is inherited via an autosomal-dominant trait with variable penetrance, though only about 10% of patients have a family history of the disease.[3] Those with such a history frequently belong to a separate subgroup with the Dupuytren diathesis. These people have more severe and aggressive nodularities and contractures, which often appear at a younger age and at several anatomic sites (eg, plantar fascia of the foot and Buck fascia of the penis).

The development of Dupuytren disease is heavily influenced by a host of other factors, ranging from use of alcohol[4,5] and tobacco[6] to advancing age and diabetes.[7–9]

The pathogenesis of Dupuytren contracture has become clearer as the fields of molecular biology and genetics have matured. We now suspect that digital contractures occur as the end product of native fibroblast and myofibroblast proliferation, enhanced synthesis of extracellular matrix, and myofibroblast contraction controlled by polypeptide growth factors.[10–13] These growth factors hold the key to the future medical treatment and prevention of this disease.

CAVEATS ABOUT SURGERY

When discussing surgery with patients, it is critical to convey two important points.

The disease can recur if the surgeon does not remove all of the abnormal tissue. Unfortunately, some tissue can appear normal but already be affected. Eventually, this tissue will likely develop nodules and cords, causing the contracture to "recur," albeit years to decades later.[14] Often this recurrence involves the same region of the hand and is minor and asymptomatic.

Surgery may worsen mild disease. Any traumatic insult to the hand, surgical or otherwise, can cause nodules and mild contractures to worsen. Therefore, surgery is not indicated for patients with early palmar nodules, which are often tender, or with minimal contractures.

INDICATIONS FOR SURGERY

With these caveats in mind, surgical indications are based on the symptoms and on the degree of joint contracture. Patients complain of diminished function, not pain. Often, they describe their involved digits as being "in the way" when trying to grasp objects or put their hands in their pockets.

If the metacarpophalangeal (MCP) joints are contracted at least 30 degrees or if the proximal interphalangeal (PIP) joints are contracted more than 10 to 15 degrees, the patient is a surgical candidate. Likewise, if the patient cannot separate the digits, limiting function and making hygiene difficult, surgery should be strongly considered (FIGURE 1).

If the above criteria are met, referral to a fellowship-trained hand surgeon is recommended. Generally, this referral is not urgent. The disease progresses slowly. In rare cases, contractures may advance quickly (weeks to months), usually in patients with the Dupuytren diathesis. MCP joint deformities almost always can be surgically corrected, even when quite advanced. It is much more difficult to obtain long-term correction of Dupuytren contractures involving PIP joints, especially if severe (> 45 degrees). These patients benefit from a more timely referral.

FIGURE 2. The degree of joint contracture sufficiently troublesome to justify surgery.

The conceptual simplicity of just excising the abnormal tissue belies the technically challenging nature of this surgery. Cords of tissue alter the expected positions of the critical neurovascular structures, putting them in jeopardy. To safely excise as much abnormal tissue as possible, the surgeon must possess a comprehensive understanding of the normal anatomy of the hand and also of the altered anatomy, including typical locations and patterns of disease.

Despite the caveats, surgical treatment of Dupuytren contracture is highly successful. The final result depends on patient-specific factors, the severity of the contracture, the surgeon's experience and skill, and the patient's adherence to the postoperative protocol.

CLOSTRIDIAL COLLAGENASE

In a phase 2 trial, Badalamente and Hurst[2] gave injections of clostridial collagenase to 29 patients with 44 joint contractures and followed them up for a mean of 20 months. Within 14 days of the injection, 32 joint contractures were completely corrected, and another 5 joints were markedly improved. The most dramatic improvement was in MCP joints.

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ADDRESS: *Thomas R. Hunt, III, MD, Section of Hand Surgery, Department of Orthopaedic Surgery, A40, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44195.*