

A Non-Surgical Approach to the Management of Dupuytren's Contracture

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First described by Clive in 1808, with an operative treatment for it later described by Dupuytren, this contracture remains idiopathic in its etiology. Turek describes it as consisting of hypertrophy and contracture of the palmar aponeurosis with consequent flexion deformity of the distal palm and fingers. Luck also stages the pathogenesis in three stages: 1) proliferative; 2) involutinal; and 3) residual. It is frequently bilateral, symmetrical, with a chronic course of one to 20 years for maximum deformity. It commonly begins with a nodule in the palm of the distal palmar crease proximal to the ring finger, which is the proliferative staging event. In this authors opinion, this is the only stage in the pathological events which might be amenable to non-surgical reduction of this lesion.

In this author's opinion, surgery is necessary beyond the proliferative stage because as the fascia undergoes fibrosis, it thickens and contracts and pulls the meniscule fasciculi connected to the skin causing dimpling. With this fascial thickening the circulation is occluded, resulting in atrophy of the integument. This circulatory impairment interferes with the healing process, whether surgical or non-surgical in character.

Relief of pain is not in the regimen since pain is not a part of this symptomatology. The object of the treatment will be to reduce the density of the fibrous nodules, the fibrous band of the aponeurosis, and to achieve extensibility of the components of this soft tissue complex, with the intention of disrupting the fibrous adhesions which have formed. This may be an intractable and frustrating process, even in the first stage.

The following is one approach to treatment: pulsed phonophoresis of trypsin, alpha chymotrypsin, and hyaluronidase to enhance proteolytic alteration of the fibrous components with 2.5 percent lidocaine ointment in the coupling menstruum. Being compounds with relatively large molecular weights, these agents will probably transfer more effectively by phonophoresis than by iontophoresis. Although this is a painless pathology, the next step of forceful extension of the involved fingers to attempt rupture of the skin and contracted fascia may be painful.

Following pulsed proteolytic enzyme/lidocaine phonophoresis employing low wattage output of about 0.75 w/cm², or less, for ten minutes, forceful extension of the involved fingers is performed with the intention of rupturing the involved skin and contracted fascia. This forceful extension of the fingers will probably require several repetitions.

With the effective disruption of the fibrous network of the aponeurotic complex, it is probable that the soft tissue components of this region may now heal.

During the healing process, the hand/finger components should be maintained in a neutral position with the fingers extended. Occasionally, each day, while maintaining the fingers in the neutral position, the extensors and flexors of the fingers should be lightly contracted voluntarily to avoid stasis edema and to enhance the transfer of interstitial fluids. Proteolytic agent phonophoresis may be repeated daily during the healing process.

This procedure may be more promising in the elderly and in individuals in which surgical correction is not an option.

If this procedure is not successful, referral for surgical correction is necessary.

References

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