# DUPUYTREN'S CONTRACTURE TREATED WITH VITAMIN E

BY

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[WITH SPECIAL PLATE]

Dupuytren's contracture is a self-limiting condition. The stage at which arrest occurs varies from a slight thickening of the palmar fascia to marked thickening with extreme flexion deformity of one or more digits. It is therefore essential, when considering the effect of any treatment, to remember the possibility that the condition may have become quiescent.

A number of investigators have written about the treatment of this condition with vitamin E, and the results have been contradictory. None of these investigators have mentioned whether the vitamin E was the sole method of treatment in their series of cases or whether it was associated with massage, active or passive stretching, wax baths, night splints, etc.

As previously mentioned, some cases progress no further than the stage of slight thickening of the palmar fascia, while others can be controlled by the above-mentioned physiotherapeutic measures, and, indeed, slight flexion deformity of the fingers can occasionally be diminished by this means.

In the present series of cases vitamin E was the only form of treatment. Tocopherol acetate ("ephynal"), 100 mg. twice daily, was administered orally for a minimum period of three months. This dosage and the period of administration seemed reasonable for the purpose of producing a response, should any be likely to occur. On this dosage no toxic effects were noted. All cases were followed up for a minimum period of three months and the majority for one year after discontinuation of the vitamin E. Of 46 patients treated, 24 had bilateral lesions, so that 70 hands were involved. The cases were divided into three groups.

*Group I.*—This group comprised 48 hands in which there was a thickening of the palmar fascia only. In assessing the results in this group I had to rely on my own observations and those of the patients. In no patient was any improvement observed. It is interesting to note that one patient had had swelling, softening, pain, and tenderness in the thickened fascia a few months before the beginning of treatment, but nothing of this nature had occurred during treatment. Another patient had similar symptoms both before and during treatment.

*Group II.*—Here there was a thickening of the palmar fascia with a flexion deformity of one or more digits, but this was not greater than 30 degrees at either the metacarpo-phalangeal or the interphalangeal joints. There were 15 hands in this group, and a plaster-of-Paris cast was made of the deformity in each case before the onset of treatment. By this method it was possible to demonstrate whether any change had occurred. In no case was there any improvement, and in three cases the deformity had increased. One patient thought the deformity had decreased, but the plaster cast failed to confirm this. Another lost the softening, pain, and tenderness which had been present, while a third had experienced these symptoms some time before treatment was begun. In this type of case it is sometimes possible to diminish or even abolish the flexion deformity of the digits by the continuous application of physiotherapeutic methods.

*Group III.*—In these cases there was thickening of the palmar fascia with flexion deformity of one or more digits greater than 30 degrees at the metacarpo-phalangeal or interphalangeal joints. Nearly all these cases had the fingers flexed well into the palm and one had extension at the terminal interphalangeal joint. There were seven hands in this group, and a cast was made of each deformity. There was no improvement in any case, while three became definitely worse. One patient thought the deformity was less, but the cast proved otherwise.

Post-operative cases have not been treated, as the operative technique employed is one of complete removal of the palmar fascia, including the extensions into the affected fingers and the vertical septa going down to the metacarpals. After this complete removal there is, in my experience, no tendency to recurrence.

## Discussion

The ages of these patients varied from the middle twenties to the early eighties, while the duration of the condition varied from a few months to 30 years. Patients are vague with regard to the duration of the condition as a rule, so that the time given by most of them is an approximate one. Therefore, so far as is possible, all stages in the development of the condition have been included.

I have endeavoured to remove the element of human error by the employment of plaster casts in estimating the degree of deformity. In the first group, however, where this was not applicable, reliance had to be placed on my own observations and those of the patients.

Pain, tenderness, and swelling in the palmar fascia has been suggested by Thomson (1949) as an indication of a specific response. These symptoms were experienced by four of our patients before the administration of vitamin E; they can therefore hardly constitute a specific response to the action of the vitamin. I have noticed these features previously in cases of Dupuytren's contracture, and regard them rather as unfavourable milestones in the progress of the condition. The tender, painful, swollen areas in the palmar fascia are composed of young fibrous tissue which later develops into the dense avascular collagenous tissue of the contracture. (See Special Plate for photomicrographs.)

## Summary

A series of 46 cases of Dupuytren's contracture were treated; 24 had bilateral lesions. The patients were divided into three groups according to the degree of the deformity. Vitamin E was the sole form of treatment, and in no case was any improvement noted.

I should like to thank Professor Dorothy Russell and her staff for the pathological sections and Mr. King for the photomicrographs.

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*West Africa* (May 24) reports that Dr. W. S. S. Ladell, of the Hot Climate Physiological Research Unit, Oshodi, told a recent conference on desert research that he disapproved of the practice of taking a siesta in hot countries. Opposition to it was based on physiological grounds, and was one of the conclusions reached by workers at the unit after widespread investigation into the capacities of men from temperate climates and of Nigerians for work in tropical heat. These investigations are still in progress, but Dr. Ladell has already been able to make certain generalizations. One of these is that, unless he has been specially trained, the Nigerian worker is not much more tolerant of severe conditions of heat than other workers.

## R. PLATT: ADAPTATION IN RENAL FAILURE

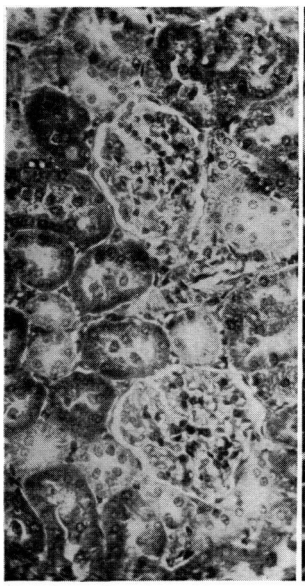

FIG. 1a

FIG. 1b

FIG. 2a

FIG. 2b

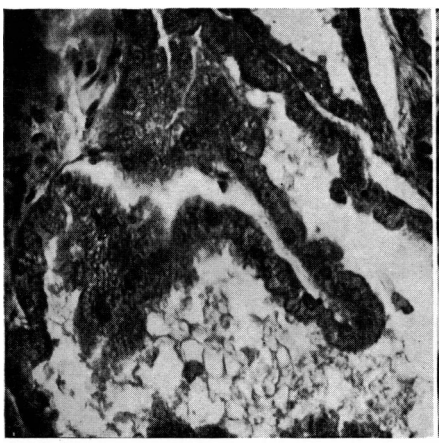

FIG. 3a

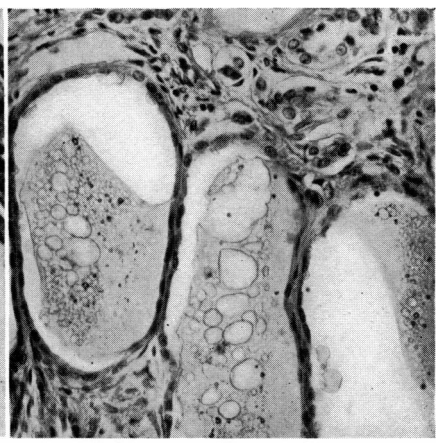

FIG. 3b

FIG. 1.—(*a*) Normal rat kidney; (*b*) renal remnant (see text), showing hypertrophy of glomerulus and tubules. (Masson's trichrome. ×220.)

FIG. 2.—(*a*) Intermediate part of proximal tubule (normal rat); (*b*) same from renal remnant, showing hypertrophy and dilatation. (Masson's trichrome. ×450.)

FIG. 3.—Human chronic pyelonephritis. (*a*) Tubules showing hypertrophy and (*b*) dilatation with flattened atypical epithelium. (Masson's trichrome. ×220.)

## S. MARSHALL AND K. S. MILLINGEN: CASE OF INFECTIOUS MONONUCLEOSIS

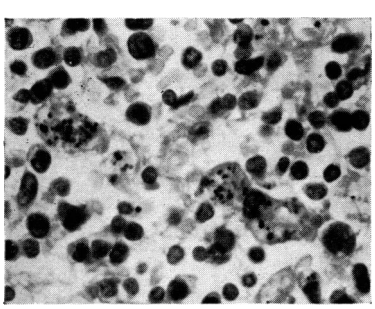

FIG. 1

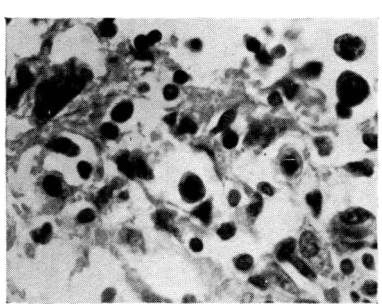

FIG. 2

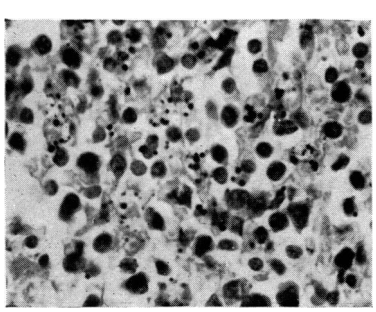

FIG. 3

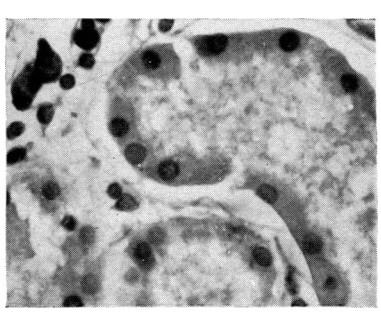

FIG. 4

## H. J. RICHARDS: DUPUYTREN'S CONTRACTURE

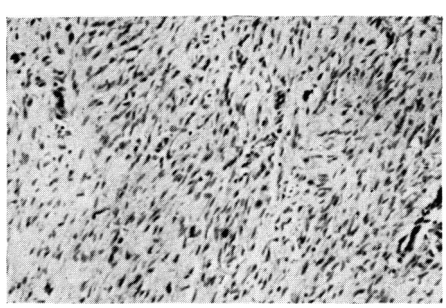

FIG. 1

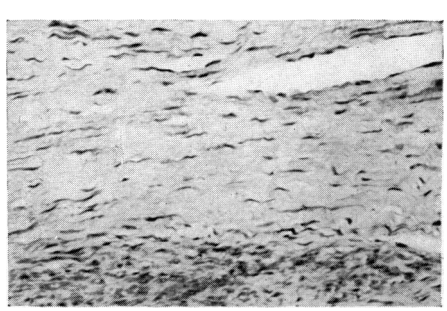

FIG. 2