DUPUYTREN'S CONTRACTION SUCCESSFULLY TREATED BY OPEN INCISION AND (THIOSINAMIN) FIBROLYSIN.

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THE treatment of Dupuytren's contraction by the methods hitherto described has proved, in too many instances, a

Fig. 1.—Side view of right hand prior to operation.

great disappointment both to the patient and the surgeon; and, looking back on our cases, we have often had reason to feel somewhat vexed with the results. Many means have been tried, and have not, it must be admitted, stood the test of experience. The subcutaneous method of William Adams gave good results, but in very few cases, and those were very early and comparatively slight in degree. In the pre-aseptic days, incision and dissecting out of the affected bands was followed by great scarring of a keloid character, and the last condition was worse than the first. This method was therefore abandoned for a time in favour of the subcutaneous operation.

In the year 1904¹ I published details of a method of incision and clean dissection of all the affected fasciae, meaning by all, that not a single portion of the dense white tissue was left behind, and that the dissection was extended freely and widely into the pearly white lustrous normal palmar fascia. In some instances I have had much reason to be gratified by the result. My best result was achieved in a man aged 50, the subject of acquired syphilis in his youth. There were, however, several cases in which tough linear scars or bands of fibrous tissue reappeared after the operation, and the finger was not freely mobile. Having noted the success of the open incision and application of thiosinamin in the form of fibrolysin, in resistant scars in other places, I applied the method to the hand.

Incidentally I have had the opportunity of making sundry observations upon the nature of the scar tissue. The view has been advanced that the affection may be of bacterial origin, and I was so fortunate as to obtain the assistance of my friend and colleague, Dr. Hebb, of Westminster Hospital, in the examination of the fibrous tissue taken from the palm. In three instances it was found that both aerobic and non-aerobic bacteria were

entirely absent, and no culture whatever could be made from the tissue. These few observations seem to me to point to the fact that Dupuytren's contraction is nothing more than a localized fibrositis, occurring in a part which is subjected to pressure, sudden strains, and blows, and is indicative of a fibroid change associated with that arterial hardening inseparable from advancing years. It is noteworthy that occasionally we find an instance in the female sex, especially in those who have done much housework, but I have never seen it in females of the upper and middle classes. In two striking instances I have met with Dupuytren's contractions in both hands, and a simultaneous fibrous condition of the plantar fasciae.

To resume the question of treatment: An Esmarch's bandage is applied round the arm, a longitudinal incision is made over the most prominent portion of the band in the palm, and, if necessary, cross incisions are made at the other end. Flaps are then dissected out and turned back; this is, perhaps, the most difficult part of the operation, as the skin is closely adherent to the affected fasciae, and great care is necessary to avoid button-holing. The flaps are held

Fig. 2.—Front view of right hand prior to operation.

Figs. 3 and 4.—The condition of the same hand two years after the operation. The fingers are perfectly supple and useful.

back, not by metal retractors, but by a thread of silk passed through each one and tied at the back of the hand. The digital nerves are then localized at the roots of the fingers, and, having due regard to their integrity, every portion of the affected fascia is dissected away. It is necessary to be careful at those places where it is adherent to the sheath of the tendon, and it is advisable to leave a very thin film of sheath in order to prevent adhesion of the tendons to the skin of the hand. The Esmarch's bandage is now loosened and any haemorrhage is arrested by pressure and the application of hot water. Fibrolysin is now poured on the open wound and thoroughly well rubbed in for two minutes, and in those cases in which the fibrosis has been extensive a couple of drops are injected at five or six spots around the margins of the dissected area. Where the fingers are not extensively involved, the nodules may be dissected from them and fibrolysin applied in the same way. Where, however, the area is so extensive and the skin is so puckered

and adherent that satisfactory dissection is impossible, I have divided the bands subcutaneously and stirred up the nodules freely by inserting a tenotomy knife into the scar tissue and turning it round many times. If fibrolysin is then injected, it seems that such trauma is followed by the disappearance of the nodules, precisely in the same way as occurs in the treatment of ordinary scar tissues in the skin. The flaps in the palm are then most carefully sutured with horsehair, particular care being taken to adjust them at the junctions of the cross-incisions with the main one. The hand is then put up with the wrist and fingers in the fullest possible extension on a malleable iron splint for fourteen days.

An ideal result is usually obtained; by ideal I mean a perfectly soft and supple palm, without any scar tissue in it, and with free mobility of the fingers (Figs. 3 and 4). In every case, however, the results of this treatment have proved infinitely superior to those following either the subcutaneous section, or open dissection without the use of thiosinamin (fibrolysin). And it is my belief that the method now described will prove a lasting success.

[The illustrations are taken from the case of W. H. A., aged 43 years.]

REFERENCE.

¹ *Trans. Amer. Orthop. Assoc.*, vol. xiii, p. 152.

CHRONIC INTERSTITIAL NEPHRITIS IN CHILDREN :

A BROTHER AND SISTER AFFECTED.

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ON at least one occasion previously chronic interstitial nephritis, or granular kidney, has been recorded in two children of the same parents. This is of exceptional interest in a rare disease, the etiology of which is so obscure. Of the three following cases the notes of the first two refer to a brother and sister. The former was under observation for the comparatively long period of seven and a half years, and the diagnosis was confirmed *post mortem*. The third case was only diagnosed at the autopsy.

CASES I AND II.

Family History (notes taken in 1911).—The mother has had nine children, all living, the eldest 30 years the youngest 9 years old; the first six are quite healthy and well developed, three of them are 6 ft. high. The seventh child (Case I), aged 14 years, is much undersized and stunted; the eighth child (Case II), aged 12 years, is small, but less obviously infantile; the ninth child, aged 9 years, is quite healthy, and is several inches taller than either Nos. 7 or 8. The mother volunteers the information that she was not well during the time she was pregnant with Nos. 7 and 8; but she is unable to recollect any definite symptoms, except that she was tired with overwork. A Wassermann reaction taken from the mother in 1913 gives a negative result. The father appears to be quite healthy; no history of syphilis. One specimen of urine has been obtained from each of the other children, and all were free from albumin.

CASE I.—J. L., male, first attended the out-patient department of the Derbyshire Royal Infirmary in 1905 (aged 7½ years). He had not had scarlet fever, nor any other disease. It was noted that his growth was stunted, and that he had not grown normally in the last two years. Urine, specific gravity 1010, albumin present. In 1911 there was little change. The low specific gravity of the urine and the albuminuria had continued since the time of the first observations. At this time (age 14 years) he was 4 ft. high, and weighed 3 st. 6 lb. (average height at 14 years in artisan class 4 ft. 9½ in., and weight 6 st.).¹ The want of development was very noticeable; he appeared to be about 7 or 8 years old, the external genital organs were not developed, there was no hair anywhere on the body; mentally he was quite sharp, but uneducated. There were no bone deformities; the skin was dry; the face had an earthy pallor, but he was not markedly anaemic; there were no evidences of congenital syphilis, unless perhaps a little scarring round the mouth. The urine (taking an average of many weeks) had a specific gravity of 1003 to 1006, was acid, very pale, and contained 1 part per 1,000 of albumin (not varying at all markedly with rest or exercise). The quantity of urine passed was about 6 pints per diem. There were no casts or other abnormalities; there was never any oedema. The heart appeared to be normal, the aortic second sound not accentuated; the pulse tension was quite low, and the arteries not thickened. The chief symptoms were intense thirst and polyuria. He had, at times, attacks of headache and vomiting. A course of treatment with thyroid extract was without benefit. There was little or no change

until towards the end of 1912, when his mother reported that he did not seem so well in himself. On January 4th, 1913, he attended, when he seemed dull mentally, and rather tremulous. He was admitted; he appeared rather puffy, but was not obviously oedematous; the optic discs showed some signs of old neuritis, being pale, rather blurred, and the vessels thin. He only passed about 10 oz. of urine in twenty-four hours for the first two days (containing 2 parts per 1,000 of albumin, no blood, but a few hyaline casts), convulsions developed, and uraemic coma supervened. A Wassermann test was negative. He died five days after admission, aged 15 years.

Post-mortem Examination.—The kidneys were very small, the right weighed 120 grains, the left 220 grains; the capsules stripped quite easily, there were no cysts, the surface was irregular or "granular," pale but slightly mottled; the cortex was narrow, the blood vessels were not unduly prominent. There was no dilatation of the pelvis of the kidneys or of the ureters. Microscopically there was an extreme degree of interstitial nephritis, the walls of the arterioles were obviously thickened, and the lumen narrowed. The heart weighed 4½ oz.; the wall of the left ventricle was a little hypertrophied (½ in. thick at the base), the valves were normal. The aorta was elastic and quite healthy. The brachial artery was elastic, not thickened, and microscopically appeared quite normal. The thyroid, suprarenals, brain, pituitary body, pancreas, liver, and other organs were quite healthy. The testicles were quite undeveloped, but apparently not diseased. There were no bone deformities, nor evidences of old rachitis or tuberculous disease.

CASE II.—H. L., female, first attended the out-patient department in December, 1911, aged 12 years, had suffered from thirst, headache, and some backache for about one month. The mother stated that she had always been delicate, but had no definite disease except an abscess of the thigh in 1906. The mother suggested that she thought the child had the same complaint as her brother. A specimen of urine was obtained, which showed specific gravity 1004, one part per thousand of albumin, but no blood or casts. There was little, if any, change for twelve months. In January, 1913, she was admitted, aged 13 years, height 4 ft. 1 in., weight 3st. 9 lb. She appeared much undersized; there was no hair anywhere on the body; the breasts showed no signs of development; there was nothing striking about the complexion; there were no bone deformities. The heart was normal, pulse low tension, arteries not thickened, maximum systolic blood pressure less than 100 mm. Hg (this was taken on several occasions). The urine has been between two and three pints per diem in quantity, the specific gravity between 1008 and 1012, the albumin about one part per 1,000, and no casts or other abnormalities noted. The thirst is present, but not very marked; there are no other symptoms except the retarded growth. The fundus of the eye is normal.

Six and a half years ago she was admitted to the Royal Infirmary for a "cold abscess" in the right thigh, which was incised. She made a good recovery, but it is noted in the report that the urine was examined four times; albumin was present on three occasions, and the specific gravity was constantly 1010.

CASE III.

H. S., male, aged 16 years, much undersized but not obviously infantile, was admitted for an operation for genu valgum, which condition had developed fairly recently. The urine, examined as a matter of routine, showed specific gravity 1014, but albumin was not detected. About ten days after the operation he became drowsy, gradually comatose, and died. *Post-mortem examination* (February, 1912): The kidneys were very small, weight 300 grains each; the capsules stripped easily, there were no cysts; the surface was pale and "granular," the cortex very thin; there was no dilatation of the pelvis or the ureters. Microscopically there was interstitial nephritis. The heart, aorta, and other organs were normal.

REMARKS.

The above cases illustrate several points of interest with regard to this obscure condition. From a clinical point of view the intense thirst and polyuria of Case I were most striking. It has been noted in other such cases, but at first sight it suggested the picture of diabetes insipidus, although the constant albuminuria proved that the kidneys were diseased. The stunted growth, obvious in all three cases, has usually been noted, but it was stated in a recent discussion² on this subject that a true infantilism, which was certainly present in Case I, and I think also in Case II, had only been recorded on three occasions previously.

The insidious nature of the onset of symptoms is well illustrated by Case II. A urine with low specific gravity and albuminuria were noted in a routine examination of the patient in 1906; but although the mother had Case I under her charge, it was not until 1911 that she noticed symptoms which suggested that the girl (Case II) was affected similarly. Case III illustrates the occurrence of bone deformities, which have been recorded before, and also the insidious nature of the complaint, for albumin

¹ Case II died of uraemia in March, 1913.