TRAUMATIC OSSIFICATION OF TENDON.

BY

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UNDER this term one would first associate the ossification of the adductors met with in horsemen, and which receives the special appellation of "rider's bone." Or, again, we may think of another common example occurring in the deltoid muscle, usually seen amongst soldiers, the "drill bone."

These two conditions are explained by the detachment of periosteal fibres consequent upon some strain; these fibres still continue to perform their functions, and so give rise to the bony formation found in the tendon of the muscle. Apart from the foregoing, bony conditions occurring in either the tendons or muscles are rarely met, so it may be of interest to record the history and histology of the following example.

In the first place, allow me to state that I wish to demonstrate not a periosteal bony formation, but an actual metamorphosis of tendon fibres into cancellous bone.

A. S., mate on a coal barge, six months before he came under my care met with an accident as the result of a

Fig. 1.—B, Bone; F T, fibrous tissue; M, muscle.

collision between his boat and one of the many narrow bridges crossing a canal. He was wedged between the barge and the bridge, being caught chiefly about the pelvis. Four days after this accident the patient was admitted to hospital, and it was discovered that besides contusions and abrasions of the anterior abdominal wall, he had, on x-ray examination, a fracture of the left ala of the pelvis. The fracture was triangular in outline, having a base of $\frac{3}{4}$ in. situated at the crest of the ilium.

The patient received the usual treatment, the pelvis was immobilized as far as possible, and he was kept for six weeks in bed. In eight weeks from the date of admission he was discharged with good union and free from pain. Subsequently for two months his condition progressed favourably, but after this, and indeed for the next two months, a most excruciating pain was felt in the upper and outer side of the left thigh, over the cutaneous distribution of the external cutaneous nerve, so that six months after the accident he was again admitted complaining of this pain, which chiefly made its appearance at night. On examination it was seen that the bone in the region of the fracture was greatly thickened, upwards of 3 in. or 4 in. in diameter, in fact, a most exuberant callus formation; whether due to an "ossific diathesis" or some clinical condition not easily explained it is difficult to say.

He stated that his father or mother, brothers or sisters, never had any broken bones, so one cannot determine whether any bony tendency runs in the family or no.

This pain in the upper and outer side of the thigh increased, so that operative measures were adopted. An extensive incision was made, and we found the external cutaneous nerve raised up on the summit of a huge lump of callus; the irritation so produced no doubt accounted for the pain.

This exuberant cancellous bone was fully dealt with, and the nerve relieved. Coming now to the item of striking interest in this case—that is, over the left inguinal region there was an isolated plate of bone imbedded in the tendon of the external oblique muscle and closely incorporated with its muscular fibres. This plate of bone had no connexion with the exuberant callus of the pelvis, but was completely isolated, and indeed was underlying the contused area on the skin following the accident.

Now I feel assured that this plate of bone was the result of the injury; in other words it was traumatic in origin. Again, it may be asked whence it cometh, from what structures did it arise, whether from tendon, muscle, or perhaps a new bony formation? The accompanying photomicrograph will speedily dispel all uncertainty, showing clearly that the bone is formed from the tendon fibres; at any rate they are replaced by bone of a cancellous type. Therefore it must be admitted that we have here an example of traumatic ossification of tendon fibres arising as a most unusual sequela complicating fractured pelvis.

NOTES ON AN INTERESTING CASE OF COLOUR BLINDNESS.

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A LINE fisherman, aged 27, came to the Eye Institution on February 21st to have his colour vision tested, as he wished to apply for a skipper's certificate. He had not previously entered for any eyesight examination, and had not had any practice with coloured wool tests. He had been at sea for a number of years, and was considered to have excellent form and colour vision. In any difficult situation the skipper always sent for him, as he could detect lights sooner than other fishermen.

Form Vision.

His form vision was normal, namely, § in each eye with no manifest hypermetropia.

Colour Vision.

TEST I.—The colour test was begun with K. Scott's asbestos chimney over an Argand burner. All the coloured glasses were repeatedly named correctly, clear or obscured by the ground glass disc, and with any size of aperture down to 2 mm., the test being applied at 3 metres distance.

The white or yellow light of the open aperture was correctly named. When, however, the ground glass disc was shown, the colour named was green, and this mistake was made repeatedly.

TEST II.—The second test used was Holmgren's wools.

1. *Pale Green*: The colours selected were pale blue, light and dark greys, also brown.

2. *Rose-pink*: Mostly pure pinks were chosen, but there was one confusion colour.

3. *Red*: Most of the reds were picked up, but also one or two dark browns.

The following additional Holmgren skeins were used as tests:

(a) *Medium Green*: This was matched correctly.

(b) *Pale Blue*: This was assumed to be green, and greys, browns and greens were selected.

(c) *Medium Blue*: Matched correctly.

(d) *Greyish-white*: With this was matched nearly all the pure greens, also greys, one or two blues, and a yellow-green.

TEST III.—The third test applied was Edridge-Green's wools:

1. *Orange*: Yellows only selected.

2. *Violet*: Blues, with one or two violets.

3. *Red*: Matched correctly.

4. *Blue-green*: Greys, greens, and yellows chosen.

The following additional skeins were used as tests:—

(a) *White*: Pinks only taken.

(b) *Light Grey*: Blues chosen.

TEST IV.—The fourth test was Edridge-Green's glasses with Thornton asbestos chimney, the aperture being 10 mm. at 3 metres distance:

(a) *Thin*—Neutral 1, named green.

(b) *Medium*—Neutral 2, named green.

(c) *Thick*—Neutral 3, named green.

(d) *Neutrals 1 and 2* (which give red), named green.

(e) *Ground glass*, named green.

(f) *Ribbed glass*, named green.

(g) *Red glasses*, all three shades named correctly.

- (h) Dark red with neutrals 1 and 2 was blank, no red being visible to the man when it was seen by myself.
(i) Dark red with ribbed glass, named green.
(j) Dark red with ground glass, named green.
(k) Orange, named green.
(l) Green, named correctly.
(m) Blue-green, called light blue.
(n) Blue, named correctly.
(o) Violet, called "mauve or blue."

TEST V.—The fifth test was the spectrum as seen in bright daylight through a small spectroscope. The only colours seen were three in number, and were called "red," "green," and "blue."

The chief points of interest in this case are:

Test I. The coloured lights, however small and clear or obscured, being named correctly, while obscured white was invariably called green.

In Test II, if decided shades were used as tests, the matching was good, and would undoubtedly satisfy many examiners. The best colour in Holmgren's wools to show the defect is probably a greyish-white, which is not one of the standard tests.

In Test III the failure to select orange, and the confusion of blue and violet, are important points, while blue-green must have been very imperfectly seen.

In Test IV the name green was applied to all neutrals, to orange, also to ground and ribbed glasses alone and with dark red, while the red given by neutrals 1 and 2 was called green. The fact that dark red with neutrals 1 and 2 was not seen shows that there must be some shortening of the red end of the spectrum, in addition to the other defects.

Test V, in which he stated positively that there were only three colours, considered along with the other tests, indicates that the case is one of trichromatic colour blindness with shortening of the red end of the spectrum, as described by Dr. Edridge-Green.

I have no doubt that this man is unfit to be entrusted with the care of life at sea; it is also evident that something more than the ordinary Holmgren tests in the hands of laymen is required to detect his deficiency.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HAEMORRHAGE FROM THE INTESTINAL MUCOUS MEMBRANE IN MEASLES.

A boy aged 7 years, whose father had died of pulmonary tuberculosis, had a typical attack of measles; the rash was well out, and there were slight bronchial symptoms, but the case seemed mild. I was informed on the fourth day of the attack that the child had had attacks of vomiting without relation to food (milk and soda water). Having already noticed that the epidemic which is raging here was occasionally ushered in by intestinal symptoms—vomiting and diarrhoea—I took no immediate notice of this symptom. The friends sent for me during the afternoon of the same day and showed me about two ounces of liquid blood, bright red in colour, not clotted, with shreds of mucus and typical sago-like masses of mucus, which they said the child had passed at stool. The child looked bright, but slight pain on pressure was elicited over the right iliac region. The patient complained of pain in the lumbar region of a colicky nature, and in front over the caecum. During the attacks the child would jump up in bed and demand the bed-pan. The haemorrhage continued in small quantities hourly for the next twenty-four hours in spite of treatment by an ice-bag to the abdomen and pulv. cretae aromaticus cum opii, grains iij every two hours. No sign of faeces was noticed in the discharge passed after each attack of pain; there had been no catarrh of the intestine before the haemorrhage occurred. I came to the conclusion that the haemorrhage was due to hyperaemia of Peyer's patches, sometimes met with in measles, especially the haemorrhagic form. Having made this diagnosis, and as the blood showed no signs of coagulation, I prescribed calcium chloride gr. v, tinct. hamamelidis ℥ iv, liquor morphinae hydrochloridi ℥ ij, every two hours. The haemorrhage gradually ceased during the next twelve hours, save for a slight discharge of blood-stained mucus which came away involuntarily on the bedclothes. The

child had a normal movement of the bowels on the third day from the commencement of the haemorrhage, of a natural colour but smelling badly. Prolapse of the rectum, brought on by straining during the attacks of colicky pains, ensued, but the boy made a good recovery.

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THREADWORMS IN THE VERMIFORM APPENDIX.
I HAVE read with interest the notes on "Threadworms in the Vermiform Appendix," by Dr. Wilson of Tunbridge Wells, in the JOURNAL of April 13th. The following notes of a case on which I operated on April 9th, and found in the appendix *Oxyuris vermicularis*, may be of further interest to your readers.

Miss A. G., aged 21 years, had suffered during the last eighteen months from repeated attacks of subacute appendicitis. The cardinal symptoms of all the attacks were so indefinite that I was in doubt as to the correct diagnosis, and therefore the call for operation, but as the patient had a more severe recurrence on April 1st, with marked pain and tenderness over McBurney's point and in the lumbar region, I decided to operate when the symptoms subsided, which they did on April 3rd, the patient being up and downstairs when I visited her. I would point out that in its shortness this attack was similar to the previous attacks, one of which only lasted a few hours.

On operating I found a very long appendix, measuring $6\frac{1}{2}$ in., passing up behind the ascending colon, which showed signs of recent inflammation, there being excessive injection. On opening the organ I found, 3 in. from the apex, a threadworm $\frac{3}{4}$ in. long, embedded in faeces, which filled the interior, and at the apex five fine hairs. The mucous membrane was greatly thickened.

I find, on inquiring into the previous history from the patient's mother, that A. G., when a child, "had a habit of lying and sleeping with her right leg drawn up," and during her whole life has had frequently dull pains over her right side and in her back, with often acute pain for a few hours, which were relieved by hot fomentations and the recumbent position. These attacks were thought to be "indigestion."

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HAEMOPHILIA IN AN INFANT.

Mrs. C. was delivered normally of a female child, small but healthy. It passed no urine till it was thirty-six hours old, but took to the breast a few hours after birth.

Three days after birth there was very slight haematemesis; the next day, the mother said, a little blood was mixed with the faeces and urine, and the child appeared slightly jaundiced. Careful watch was kept for the next few days for further symptoms. When I called on the eighth day I was struck by the marked change since I saw the child the day before. Its face was now a deep lemon yellow, suggestive of intense anaemia. The "binder" was found soaked with blood, which had proceeded from the neighbourhood of the umbilical cord. No bleeding point could be found, but I transfixed and ligatured the remains of the cord, and applied a compress. The mother said she had noticed nothing wrong when she washed the baby half an hour before. The child was already comatose. Further bleeding occurred twice during the day from the same locality. The cord had practically come away.

At the necropsy, performed thirty-six hours later by Mr. W. J. Heslop, F.R.C.S., several bruises under the skin were found. All the organs were normal, but very pallid and bloodless. The ventricles were practically empty save for a little uncoagulated blood. The liver had not the yellow colour suggestive of icterus neonatorum. On opening the skull the space between the brain surface and the membranes was filled with thin uncoagulated blood, but the brain substance itself was bloodless, the blood evidently having oozed out from the vessels. The weight of the child was $4\frac{1}{2}$ lb.

Mr. Heslop came to the conclusion that death was due to a true haemophilic condition. There was no fever and no suspicion of specific disease in the parents, who are both healthy. The case is thus differentiated from the haemorrhagic diseases of the newborn described by Osler.

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