diminished. Pleural friction was heard over a small area below the right nipple. The blood pressure was 220/140. The right testis and epididymis were swollen and acutely tender. On routine examination the urine was normal. The leucocytes numbered 6,700 (polymorphonuclears 53%, lymphocytes 46%, eosinophils 1%). A chest film showed some tenting of the right leaf of the diaphragm, together with some haziness of outline. Serum agglutinations were negative for leptospira, typhoid, and brucella groups. Specimens of serum were sent to the Virus Reference Laboratory, Colindale, for tests against the Cocksackie virus. The chest pains had practically gone by October 17, although the right testicle and epididymis were still swollen but not tender. All abnormal signs had passed off by October 20, and the patient was discharged fit on the 22nd.

The family consisted of his wife and three sons. One, aged 22, on September 4 complained of indigestion and a rash, thought to be due to something he had eaten. He recovered in four days, but on September 14 he became ill again with fever, shivering, and pain in the shoulder and over the left lower ribs on deep breathing, sneezing, or coughing. Towards the end of his illness he had pain in both testicles, the left beginning first and becoming swollen. His illness lasted 14 days in all.

The second, aged 19, was taken ill on September 14 with headache, malaise, and pains over the lower ribs on both sides. Headache and photophobia were severe and his fever continued until the 27th. Towards the end of his illness pain developed in both testicles.

The third, aged 15, became ill on September 12 with nausea, malaise, and aching pains across the front of the chest. He had fever for a few days but made a rapid recovery. There was no testicular pain or any suggestion of orchitis.

The wife had a sore throat, beginning about the middle of September, but she remained well otherwise.

Case 2

A middle-aged officer had been closely associated with Case 1 since the latter returned from his holiday. On October 1 he became ill with fever, sore throat, and cough. There was no pain in the chest. Pyrexia and malaise lasted for one day only, but on October 4 he complained of pain and swelling of the right testicle. He was seen as an out-patient on the 8th, when the right testis was found to be normal but the epididymis was enlarged and tender. On the 10th there was a definite orchitis. Intermittent testicular pain and swelling persisted. Considerable enlargement and much tenderness of the testis and epididymis continued until October 24. From then onwards symptoms resolved.

Summary

The importance of orchitis as a complication of Bornholm disease is stressed.

This cause should be considered in cases of epididymo-orchitis of undetermined aetiology, particularly if the condition appears in epidemic form.

Orchitis should be looked for in cases of Bornholm disease, especially in the second week.

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"TRIGGER-THUMB" SIMULATING PARALYSIS

A REPORT OF TWO CASES

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Recently two patients have been seen who appeared at first to have an isolated paralysis of the flexor pollicis longus.

Case 1

A housewife aged 53 suddenly noticed that she was unable to flex the terminal joint of her left thumb. She had not had any previous symptoms in the thumb, and her only other complaint was of some acroparaesthesiae in both hands. When first seen, some months later, the only detectable abnormality was loss of active flexion at the terminal joint of the thumb, though passively it appeared full, with some springy resistance at the limit. Faradic stimulation of the flexor pollicis longus produced a flicker of movement at the terminal joint.

General medical examination and an x-ray film of the thumb showed no abnormality. A tentative diagnosis of "hysterical paralysis" was made, and treatment by faradic stimulation and by attempts to re-establish active movement was begun.

The patient tried hard to achieve movement for about three weeks, and then suddenly she found that, with great effort and with pain felt in the anterior metacarpo-phalangeal region of the thumb, she was able actively to flex the terminal joint through a full range, but that it then became fixed in flexion and could not be straightened except passively, when a palpable click was noticeable at the site of pain. It was now evident that the diagnosis was "trigger-thumb" involving the flexor pollicis longus, and that the obstruction to movement which was occurring at the level of the metacarpo-phalangeal joint had been partly overcome.

Incision of the tendon sheath was advised, but during the usual long delay before admission the patient continued to practise flexing her thumb, and this gradually became easier and less painful, and eventually spontaneous recovery occurred, so that no disability remained. When seen 18 months later she complained only of odd twinges of discomfort in her thumb, but no catching. There was full painless active movement of the interphalangeal joint. Slight enlargement was palpable in the line of the sheath and tendon of flexor pollicis longus at metacarpo-phalangeal joint level, and a slight click was noticeable here on active flexion-extension of the terminal thumb-joint.

Case 2

A housewife aged 55 suddenly found that she was unable to flex the terminal joint of her left thumb. When seen at another hospital, where a diagnosis of hysterical paralysis was made, she was referred to a psychiatrist, who was unable to find any evidence of psychological disturbance. When seen at this hospital some weeks later she was still apparently unable to bend the tip of her thumb, and her only other complaint was of slight acroparaesthesiae in the left hand. On going into her history in more detail it was found that the onset of the condition occurred when she woke up one morning with the thumb flexed at the terminal joint and had had to pull it straight. Subsequently she had been unable to bend it at this joint, except on two occasions

when she had fallen with the thumb bent under her, again causing the terminal joint to become fixed in flexion and requiring manipulation to pull it straight.

On examination it was found that active flexion of the terminal joint of the thumb had not been completely lost, for with the proximal phalanx held firmly a flicker of active flexion was noticeable, and, furthermore, this could also be reproduced by faradic stimulation of the flexor pollicis longus. Passively, flexion was full, but with a springy resistance at the limit. Some tender enlargement in the line of the sheath and tendon was palpable at the metacarpo-phalangeal-joint level, and the anterior border of the base of the proximal phalanx seemed unduly prominent. There was a suggestion of creaking at this level on attempted flexion of the terminal thumb-joint. An x-ray film of her thumb showed no abnormality.

The patient continued repeatedly to try to make her thumb bend. After a few minutes there was a sudden sensation of tearing, and almost full active flexion of the terminal joint was restored. It was now accompanied by coarse creaking in the position of the tendon sheath at the metacarpo-phalangeal-joint level. The diagnosis was thus again established as "trigger-thumb," the obstruction being overcome by force. She was able to keep the movement of the terminal joint of the thumb for the rest of the day, but by next morning it was again quite stiff. When seen several weeks later the condition was unchanged, and, what is more, she was beginning to develop a similar condition in the opposite thumb. In this case, however, it was proceeding along more classical lines, for she was having difficulty in both bending and straightening the terminal joint, and this was associated with a "click," most noticeable on extension, and located at the usual metacarpo-phalangeal-joint level.

Tendon-sheath incision was suggested for her left thumb, but she was not keen on this, and so was advised to go on trying to re-establish normal movement of the tendon. She was seen three months later, when her left thumb was improving in that, although fixed in extension first thing in the morning, with active exercise it soon regained normal mobility, though this was associated with some clicking in the line of the tendon sheath. The right thumb at this time presented a similar picture.

She was finally reviewed after a further nine months, when she said that both her thumbs were quite normal, and, indeed, on examination the only slight abnormality was some palpable enlargement in the line of the sheath and tendon of the flexor pollicis longus, on both sides, at the metacarpo-phalangeal-joint level.

Discussion

In adults "trigger-finger" affecting the ring and middle fingers is more common than "trigger-thumb." The usual clinical picture is that of a sudden onset of difficulty in bending and straightening the terminal joint, but the difficulty is experienced in semi-flexion. It is associated with a click or jerk palpable in front of the metacarpo-phalangeal joint, for this is the level at which the obstruction commonly occurs (Croh, 1937; Wiles, 1949).

In more advanced cases the obstruction may have to be overcome by passive stretching, and extension usually causes more difficulty than flexion, so that the terminal joint tends to become fixed in the flexed position. In these cases the diagnosis presents no difficulty. "Trigger-thumb" is particularly common in infancy and childhood, and is frequently bilateral; it may be present from birth. Case reports, which are not numerous, appear to be confined to this group (Compere, 1933; Hudson, 1934; Jahss, 1936; Zadek, 1942; Rose, 1946; Sprecher, 1949). The signs are similar to those of the adult group, but the presenting symptom is commonly that

the child's thumb has become fixed in flexion. No report could be found of the terminal joint becoming fixed in extension.

The obstruction may be caused either by enlargement of the tendon or by enlargement of the tendon with narrowing of its sheath in front of the metacarpo-phalangeal joint. The former factor alone appears to be by far the more common one. This feature distinguishes the pathology of "trigger-finger" and "trigger-thumb" from that of stenosing tenosynovitis occurring at the radial styloid (de Quervain's disease). In this, the narrowing of the canal within the sheath by the effects of inflammation of the sheath is the important cause of the symptoms and signs (Keon-Cohen, 1951). In "trigger-finger" or "trigger-thumb," however, inflammation of the sheath is not usually seen, and Sprecher found no such evidence in 12 cases.

The consensus is that conservative treatment is of very doubtful value and that surgery in the form of vaginotomy is the only really effective and rapid cure.

The two cases in middle-aged women reported here are unusual in that the real diagnosis was masked because the terminal joint of the thumb had become fixed in extension. At first, as all too often happens when no obvious organic lesion can be discovered, a diagnosis of hysteria was made. In the first case the diagnosis was elucidated by the patient's own effort; in the second, foreknowledge of the syndrome helped to solve the problem. It was fortunate, from the latter patient's point of view, that the psychiatrist was unable to detect any psychological abnormality. In establishing the diagnosis at an early stage, the springy feel at the limit of flexion, due to buckling of the tendon of the flexor pollicis longus distal to the obstruction, and the palpable enlargement of the tendon and sheath at the metacarpo-phalangeal level are useful signs. The complete spontaneous recovery of both cases is in keeping with the prognosis for the more common types of this lesion in adults (J. C. Scott, personal communication). However, as it takes many months to recover spontaneously, incision of the tendon sheath as a method of quick relief in those in whom the functional disability is troublesome should be considered. Physiotherapy, except for attempts by the patient to break down the obstruction by repeated active movements, is of no use.

Summary

Two unusual cases of stenosing teno-vaginitis of the flexor pollicis longus simulating paralysis are described.

Hysteria was initially diagnosed, and one case was actually sent to a psychiatrist.

Spontaneous and complete recovery occurred in both, but it took many months.

Physiotherapy, other than repeated active movements on the part of the patient, was not of value.

I am indebted to Mr. Peter Wright for reviewing the second case.

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