A CASE OF MARKED POST-DIPHTHERITIC PARALYSIS.

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AN interesting case of diphtheria was recently under our care at the Bootle Corporation Hospital. As recovery after such complete paralysis as the patient had is not very common, we think it worthy of record.

The patient, a girl aged 2½ years, was admitted on Nov. 1st, 1915. According to the history she had been quite well until the previous day, when she vomited several times and complained of sore-throat. On admission, the tonsils, the uvula, and the posterior edge of the soft palate were covered with a white, slightly hæmorrhagic membrane. The temperature was 98° F., the pulse-rate 128, and the respirations 26 per minute. No abnormality of the heart or lungs could be detected. Numerous bacilli similar to those described by Klebs and Löffler were seen in the smear from a throat swab, and their presence was confirmed by culture. The patient was given 10,000 units of antitoxin on the day of admission. On Nov. 4th the throat was cleaning, but the heart was very rapid and the first sound soft. She was given half a drachm of whisky four-hourly, which was continued until the 10th, when it was given only three times a day, and was discontinued altogether on the 14th. On Nov. 8th the heart's action was markedly feeble, and the patient was given two minim doses of liq. strychninæ hydrochloridi four-hourly; this was continued throughout the rest of her stay in hospital. On the 15th the throat was quite clean. A definite mitral systolic murmur could be heard; it became fainter until the 19th, when it was no longer present. On the 22nd the speech began to be nasal; it rapidly became more marked, and on the 25th the palate was almost immobile. On this day the heart was beating normally and the knee-jerks were brisk. About the beginning of December the first cardiac sound again became soft, and on the 8th serious vomiting occurred—always an ominous sign in such cases. Small feeds of diluted milk were given, but by this time the palatal paresis was so marked that it was impossible for the patient to take more than very small quantities of liquid by the mouth, and what was taken was not retained. For 24 hours she was fed by the rectum, and then a two-ounce feed of diluted milk was introduced into the stomach through a small rubber catheter; it was inserted directly from the mouth and not through the nose. The next day the patient took five-ounce milk feeds through the tube every three hours without any difficulty. After two days' feeding in this way the general condition had perceptibly improved, but the breathing was entirely diaphragmatic, pointing to a paralysis of the intercostal muscles. Milk feeds, strengthened by Valentine's meat extract and virol, were given regularly through the tube for over three weeks. On the 24th the patient could take single drops by the mouth and the intercostal muscles were again working; the heart was much stronger; the pupils reacted to light, but the eye movements were somewhat sluggish. By this time complete flaccid paralysis of the legs had developed; they were massaged regularly. A week later there was complete external ophthalmoplegia. On Jan. 3rd, 1915, the patient could take alternate feeds by the mouth, and on the 5th tube feeding was discontinued. She could then flex the thighs, but the extensors and flexors of the knees and ankles were still inactive. Movement of the eyes was at this time beginning to return. By the end of January everything had cleared up except for some inversion of the foot; this had disappeared by Feb. 16th, when she was discharged with no sign of paralysis anywhere and able to run about fairly well.

A CASE OF THE OS TIBIALE EXTERNUM SIMULATING FRACTURE OF THE NAVICULAR BONE.

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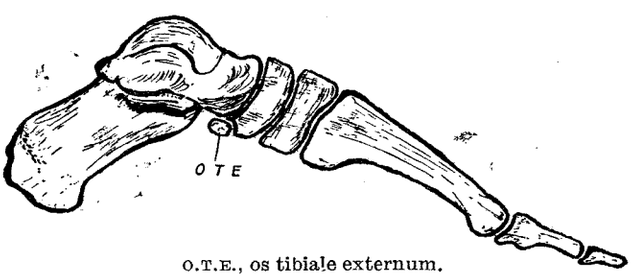
THE history of this case, which may prove of interest to readers of THE LANCET, was as follows:—

A stoker, R.N.R. T., aged 23, was on duty on board his ship on Feb. 16th, when in going aft he caught his left foot in a wire hawser and fell. He was sent to the Royal Naval Hospital, South Queensferry, the next day. On examination there was found to be some swelling of the ankle-joint, and the œdema seemed to have spread up into the muscles of the calf. The foot was very tender, especially on the inner side; the arch was not destroyed in the least. On carefully examining the inner side of the foot a piece of bone could be felt in the region of the navicular bone, but no crepitus could be obtained; it was thought to be a fracture of the tuberosity of the navicular bone. On X ray examination with a screen a small round nodule of bone could be seen in the angle between the navicular bone and the talus; if the patient tried to invert the foot the fragment was slightly displaced. The right foot was screened as well, and, to my surprise, an exactly similar picture of the bones presented itself. The patient was put to bed and lotio plumbi was applied to the foot and ankle. The pain and swelling subsided in a few days, and massage to the muscles of the leg and foot was prescribed. At the end of two weeks the patient was walking about and was soon after discharged to duty. There was no sign of flat-foot and as the bone did not give rise to any painful symptoms excision was not performed.

Formerly the os tibiale externum was regarded as a sesamoid bone in the tendon of the tibialis posterior, but Waldeyer has shown that the term "tibiale externum" should include chondrifications and ossifications of the ligamentous structures and accessory slips of tendon.

The os tibiale externum is one of the most interesting of the anomalies of the tarsal bones, since it represents a first or tibial external digit, the prehallux. It lies in the medial angle between the navicular bone and head of the talus, and is usually situated in the connective tissue of the plantar calcaneo-navicular ligament and the medial process of the tendon of the musculus tibialis posterior. It does not articulate with the talus, but in rare cases it may articulate with the navicular or be connected with the latter by synostosis. It cannot, according to Waldeyer, be regarded as an isolated tuberosity of the navicular bone, because it is always somewhat smaller, although it has the form of the above-named tuberosity. According to Pfitzner,[1] who is inclined to believe that the os tibiale externum is really a sesamoid bone in the tendon of the musculus



O.T.E., os tibiale externum.

tibialis posterior, its greatest diameter is from 2·5 to 19 mm., and it occurs in males 8·3 per cent., and in females 14·9 per cent. The reasons for the preponderance of frequency in the female sex is not explained.

Manners-Smith[2] discusses the mechanical and morphological sides of the question. He regards the bone as composite in nature, formed from the following elements: (*a*) An apophysis growing from the navicular; (*b*) an epiphyseal portion (naviculare secundum) of Grüber; and (*c*) the so-called sesamoid bone in the tendon of the musculus tibialis posterior. He states that the single bone described by Pfitzner as the tibiale externum corresponds in position to the parts described above under (*b*) and (*c*).

Bardeleben[3] has demonstrated the os tibiale externum as an independent cartilaginous nodule in a 2 mm. fœtus. In many mammalia it appears as a constant skeletal structure articulating with the talus. Mouchet[4] states that when present the os tibiale externum is bilateral, and that not infrequently there are no symptoms; in other cases flat-foot occurs and pain may be partly due to that.

[1] Beiträge zur Kentnis des Menschlichen Extremitätenskelettes: V., Anthropolog. Beziehungen der Hand- und Fussmasse, Schwalbes Morphologische Arbeiten, Bd. ii., H. 1, S. 93, 1902.
[2] Journal of Anatomy and Physiology, vol. xli., 1907.
[3] Handbuch der Anatomie des Menschen, Band vii., Skelettlehre, S. 161.
[4] Revue de Chirurgie, 1913, vol. ii., p. 825.