

ABSCESS DUE TO STREPTOTHRIX EPPINGERIS (ACTINOMYCES ASTEROIDES) RESEMBLING A STAPHYLOCOCCAL INFECTION.

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I HAVE been led to publish this case not only on account of its rarity, there being but six already published, but to demonstrate the error into which one may fall, as I did myself in making a hasty diagnosis. Foulerton¹ has drawn attention to the difficulty of making the diagnosis clinically, and the necessity for careful bacteriological examination.

The patient, a maniac aged 48, confined in an asylum, was placed in a cell on November 23rd, 1912, because of his agitated condition. It is an interesting observation that in his cell there was a loose bedding of straw, which he was constantly throwing about. On December 2nd, 1912, the house surgeon noticed oedema and lymphangitis around an abrasion on the right thigh below the great trochanter. Unrelieved by palliative measures, it was incised on December 9th, and half a pint of blood-stained dark yellow, non-smelling pus was evacuated. This showed on microscopical examination débris, degenerated leucocytes, and Gram-positive cocci. The appearance of a few colonies of staphylococci on the agar tubes after eighteen hours led me to presume a staphylococcal infection; the clinical signs and progress supported this view. The patient had had a temperature of 39° C. to 39.5° C. during the previous four days, and was very ill. I gave a vaccine of 30 million living sensitized staphylococci. There was no local reaction and no reduction of the temperature. The patient continued to sink, and died on December 14th, 1912.

Five days after sowing I noticed on the gelatine isolation plates numbers of non-liquefying pale yellow colonies, which microscopically showed non-motile short filaments and cocci; both retained the Gram stain. There were but four colonies of *Staphylococcus aureus*. Repeating the sowing of some pus that had been stored in the ice-house I obtained similar results. Anaerobically, nothing grew on either occasion. The blood of the patient, sown on the day of operation, was also negative. An autopsy was not permitted. I did not think there was a cerebral abscess.

Suspecting a streptothrix from the microscopical examination I chose certain media for cultures.

On glycerine potato there was definite growth in forty-eight hours—nodular, undulated, and irregular, and changing from orange to brick-red day by day.

On carrot, no growth.

On glucose agar, as on potato.

On ordinary agar, similar but slower growth.

On gelatine, colonies slowly growing, yellow, viscous, round-bordered, with ill-defined halo; non-liquefying.

On broth, similar to that on potato, as a veil at the top; liquid clear. At the bottom a cloud-like greyish culture studded with small pale orange-coloured nodes.

Anaerobically there was no growth.

After one month on the solid potato and agars, also on the liquid at the bottom of the potato tube, there were white areas, some defined, some as borders, which by the hand lens appeared as projecting filaments. Microscopically these showed, as the original pus, Gram-positive cocci-like spores. The nodular red and tenacious mass showed Gram-positive rods; a few only lost the violet colour. On staining by the Ziehl-Nielsen method for acid-fast properties, the red colour persisted in the cocci and rods, though the latter retained the stain better at certain points along them.

The injection of a platinum loopful (1 c.cm.) in saline into the peritoneum of a medium-sized guinea-pig killed it in five days. Autopsy showed enlarged and congested kidneys and suprarenal glands. The mesenteric glands and those along the lower border of the stomach and in the omentum were markedly conspicuous and yellow in colour. The sowing of one gave a pure culture. The brain was normal and the blood sterile. Nothing macroscopically was seen in the lungs. An unfortunate accident prevented histological sections.

Injections intravenously and intraperitoneally into mice gave no results. It was only after the cultures were one month on media that I injected two rabbits, first subcutaneously and a week later intravenously. The subcutaneous injections were slow to absorb, but there was no abscess. The intravenous infection was innocuous. The doses were similar to that given to the guinea-pig.

These animal experiments are extremely limited, and the fact

that the results on the rabbits do not correspond with those made during the complete and valuable researches of Eppinger,² Nakayama,³ and McCallum,⁴ probably bear upon the age of the culture and smallness of the dose employed.

In conclusion I wish to express my deep gratitude to M. Pinoy for his generous and invaluable counsels during these observations.

REFERENCES.

¹ *Lancet*, February 8th, 1913. ² *Ziegler's Beiträge zur path. Anat.*, Band ix, 1890. ³ *Arch. f. Hyg.*, lviii, 3 fasc. ⁴ *Centralbl. f. Bakt., Parast., und Infect.*, May 14th, 1902.

THE TREATMENT OF CHRONIC PROGRESSIVE DISEASES OF THE SPINAL CORD BY X RAYS.

WITH AN ACCOUNT OF TWO CASES.

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THE "reading up" of spinal cord lesions is a melancholy business for the student of medicine. He finds in textbooks an elaborate classification of symptom-groups into so-called diseases, the names of which he learns with much labour. But if he is called upon to acquire a knowledge of the distinction between progressive muscular atrophy, ataxic paraplegia, disseminated sclerosis, and the like, he is saved the effort of learning any etiology to speak of beyond the time-honoured "cold, wet, exposure, fright, and mental worries." Nor does it take long to peruse the paragraphs devoted to treatment, for they consist of little more than a list of those remedies which have been tried and found useless.

Later on, when he begins to see these cases in practice, he finds as often as not that they will not fit into any particular textbook pigeon-hole. The average physician is content if he can (a) distinguish between functional derangements and organic mischief; (b) exclude active syphilis or tubercle; and (c) differentiate "idiopathic" disease from that due to "parasymphilitic" toxins. If one can make out with certainty that the patient is suffering from chronic progressive disease of the spinal cord which is neither tuberculous, nor syphilitic, nor parasymphilitic, it is of little practical importance whether the malady does or does not fit in with any classical description. In any case, the etiology is unknown, the prognosis bad, and ordinary medical treatment non-existent.

I make the foregoing remarks because the cases which I have to report are somewhat difficult to name. Yet both are undoubted instances of spinal cord degeneration, in which the diagnosis has been confirmed by recognized authorities; and any conclusions which may be drawn from their reaction to treatment may justly be applied to cases presenting a more usual combination of symptoms.

Some years ago certain Continental observers began to use x rays and radium in the treatment of syringomyelia, disseminated sclerosis, etc.; they reported considerable improvement. I myself began to use radio-therapy at the beginning of the year 1911, and as this treatment has not, to my knowledge, been much used in this country, I think it may be worth while to set forth my results up to the present time.

CASE I.

Miss R., aged 18, sent to me by Dr. A. C. Farquharson of Spennymoor. This girl complained of pain and weakness in the right arm and shoulder of some months' duration, and of general loss of energy and spirits. She appeared pale and anæmic. Inspection showed general wasting of the muscles of the forearm, arm, and shoulder girdle on the right side; also slight wasting of the muscles of the left thigh, about which, however, no complaint was made. No plantar reflex could be elicited on either side; the knee-jerks were normal. Tremor was absent, there was nothing peculiar about the speech, and eye signs were lacking. All the affected muscles reacted fairly well to the faradic current. A radiograph, taken to exclude tuberculous disease, showed lateral curvature of the spine in the upper dorsal and cervical regions, with some beveling of the vertebrae.

I was puzzled by the case, but made a provisional diagnosis of late infantile paralysis. (There was a history of an attack of "influenza" some six months before, but the patient was not clear as to whether or not it had preceded the muscular weakness.) Acting on this assumption, I began a course of faradic stimulation of the affected muscles. Rapid improvement took place, and at the end of ten weeks the pain had subsided,