A CASE OF ACUTE STREPTOCOCCAL ENTERITIS.

BY

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THE case we are about to describe is of interest, on account of its resemblance to cases of so-called ptomaine poisoning. We are indebted to Dr. J. W. F. Jewell, of Balham, who had charge of the patient, for the following history of the case:—

Clinical History.—A gentleman travelled by train from Scotland to London. On the journey he partook of tinned fruit, and was seized, some six hours later, with vague pains in the abdomen. The pains gradually increased, and in fifteen hours after the first symptoms intense diarrhoea and vomiting supervened. When first seen by Dr. Jewell, twenty-five hours after the onset, he was completely collapsed, but conscious, and complained of agonising pain in the abdomen and over the region of the heart. The pulse was scarcely perceptible and the heart sounds were almost inaudible, the respirations 60 a minute, the lips blue, the face congested, the temperature in the groin was 105°. Brandy and milk were administered by the mouth, and $\frac{1}{2}$ gr. of morphine was given hypodermically. In about half an hour the sickness and diarrhoea stopped and the pain in the abdomen was relieved. Injections of strychnine and digitalis revived the pulse, and the cyanosis was relieved by inhalations of oxygen. About an hour and a half before death he suddenly got worse, and although transfusion with saline solution revived him for a time, he gradually became unconscious, and died thirty hours after the first onset of the symptoms.

Necropsy.—A *post-mortem* examination, at which one of us was present, was made by Dr. Jewell ten hours after death. About 2 pints of turbid fluid were found in the peritoneal cavity. The mucous membrane of the stomach was slightly congested, but not more than could be accounted for by the constant vomiting. The mucous membrane of the first 4 feet of the small intestine was deeply congested and cedematous, and was blackened in patches. The intestines contained a moderate amount of liquid material. There was hypostatic congestion of the lungs, and the endocardium was blood-stained. The rest of the organs appeared quite normal. There was no wound or abrasion in the skin, with the exception of minute punctures produced by subcutaneous injections. Specimens of the heart blood, the peritoneal fluid, the liver, and the wall and contents of the first part of the small intestine, were collected in sterile tubes under the usual aseptic precautions.

Microscopical Examination.—The intestinal contents were examined microscopically, and showed a large number of streptococci in addition to other bacteria. The juice from the wall of the affected portion of the small intestine was examined microscopically, and showed a moderate number of streptococci, but no other bacteria. The heart blood showed, on microscopical examination, a large number of cocci in chains and pairs, and a few large bacilli. Inoculations were made in broth, on the surface of agar, and in the depth of glucose-gelatine. In all the tubes pure cultivations of streptococci were obtained. The juice from the liver showed, on microscopical examination, many cocci in chains and in pairs, and a few large bacilli. Inoculations were made in broth, on the surface of agar, and in the depth of glucose-gelatine. In all the tubes pure cultivations of streptococci were obtained. The peritoneal fluid showed, on microscopical examination, a few bacilli, but no cocci. Inoculations were made in broth, on the surface of agar, and in the depth of glucose-gelatine. In all the tubes cultivations of the bacillus coli were obtained. Sections of the small intestine showed the presence of diplococci and streptococci.

Inoculation Experiments.—The streptococcus isolated from the liver and heart blood was cultivated upon various media, and gave all the characters of the streptococcus pyogenes. A mouse inoculated subcutaneously with $\frac{1}{2}$ c.cm. of a broth cultivation died in three days with streptococci in the blood and organs. Another mouse fed upon bread soaked in a

broth cultivation was not affected. A rabbit and a guinea-pig inoculated with 1 c.cm. of a broth cultivation suffered from transient cedema at the seat of inoculation, from which they recovered.

REMARKS.

In this case the symptoms were those that are usually attributed to ptomaine poisoning, that is to say, to the ingestion of toxic products of bacteria. The bacteriological examination pointed to an actual infection with streptococci starting in the wall of the jejunum. They were found in large numbers in the intestinal contents, in the tissues of the inflamed portion of intestine, in the blood of the heart, and in the liver. The streptococcus, as far as morphological and cultural characters were concerned, was similar to the streptococcus pyogenes; it was pathogenic to mice on subcutaneous inoculation, and produced transient local lesions in a rabbit and guinea-pig. The bacillus, which in addition to the streptococcus was found in small numbers in the blood and liver, was probably an anaerobic putrefactive bacillus growing only at the temperature of the body. It did not grow in broth or on agar at 37° C., nor in the depth of glucose gelatine at 20° C.

Booker,¹ in an investigation into the causation of infantile diarrhoea, attributes some of the cases to infection with a streptococcus. Tonarelli² describes a form of enteritis with typhoid-like symptoms caused by a streptococcus. The introduction of cultivations of this streptococcus into the stomach of rabbits after previous alkalisation of the contents, caused diarrhoea followed by death. At the *post-mortem* examination a blood-stained serous exudation was found in the peritoneal cavity, and there was hyperæmia of the mucous membrane of the intestine without ulceration. Streptococci were present in the exudation and in all the organs. Hirsch³ describes a fatal case of diarrhoea in a child in which streptococci were present in large numbers in the faeces during life, and were found in the heart blood and in the organs after death. The streptococcus isolated was difficult to cultivate, and would not grow on ordinary broth or gelatine. It was pathogenic to white mice. Tavel and Equet and de Cérenville have also ascribed cases of enteritis to the presence of a streptococcus.

REFERENCES.

¹ Johns Hopkins Hospital Reports, Vol. vi. ² La Riforma Medica, 1896, Nos. 97 and 98. ³ Centralt. für Bact. xxii, 14 and 15.

THE DIAGNOSIS OF DIPHTHERIA OF THE CONJUNCTIVA.

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DIPHTHERIA of the conjunctiva is supposed to be a rare affection in Great Britain, although known to be common in some other countries—as Northern Germany and Southern France—where it is especially frequent during epidemics of throat diphtheria. No age is exempt, but it attacks for the most part young children, probably because they are more exposed to infection than older people. According to statistics, females appear to be slightly more liable than males. The ailment, as a rule, is bilateral, but an interval, amounting to some days, generally elapses before the second eye suffers. It is frequently associated with diphtheria of the fauces, nose, or other parts. It is prone to affect those whose powers of resistance have been lowered by some recent illness—as measles, scarlet fever, or whooping cough. It has been often observed to follow impetigo of the face or lids, but this may be a mere coincidence, seeing how common the latter are among unhealthy children. A foregoing affection of the conjunctiva, as trachoma or phlyctenular disease, predisposes, it is thought, to its development. The connection, however, can scarcely be a very close one.

The two following instances of conjunctival diphtheria, which have been carefully followed throughout their course, have recently fallen under my notice.

F. A., aged 4 years, was brought to the ophthalmic department of the North-Eastern Hospital, on February 9th, 1898, on account of her left eye, which had been inflamed for seven days. The child was delicate. She had suffered from empyema about two years before she came under my