Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Four Cases of Acute Septic Inflammation of the Throat, with Bacteriological Report.

A MEETING of this society was held on Feb. 10th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. P. R. W. DE SANTI read a paper on Four Cases of Acute Septic Inflammation of the Throat, with Bacteriological Report. He said that the present paper was a sequel to a contribution by Sir Felix Semon to the Fellows of the Royal Medical and Chirurgical Society on April 23rd, 1895, and entitled "On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammations of the Throat hitherto described as Acute Œdema of the Larynx, Œdematous Laryngitis, Erysipelas of the Pharynx and Larynx, Plegmon of the Pharynx and Larynx, and Angina Ludovici." Since the publication of that paper he had determined to keep careful records of any cases of acute septic inflammations of the throat that might present themselves to his notice, particularly as to their bacteriology. Since 1895 he had been able to observe four such cases and the notes of these cases were given in their order of ascending severity. Case 1 was that of a man, aged 48 years, who came under the care of Mr. de Santi at Westminster Hospital in 1899 with a deep-seated and extensive abscess of the right cervical region and a discharge of pus from the right external auditory meatus. Pressure on the abscess caused pus to well out of the external auditory meatus; a perforation of the deep digastric aspect of the right mastoid was diagnosed and the mastoid abscess in the neck was opened up and the diagnosis was verified. The patient went on well for nearly three weeks when he suddenly developed cutaneous erysipelas of the left cheek; this rapidly spread to the rest of the face and neck on the left side and then across the midline to the right face and neck; he also had extensive patches over the back down to the lumbar region. Soreness of the throat was complained of and examination revealed a bright red swelling of the posterior pharyngeal wall, soft palate, and uvula. Cultures from the throat showed streptococcus pyogenes and a few staphylococci. 10 cubic centimetre doses of anti-streptococcic serum were given three times during the ensuing 22 hours when the rash had almost entirely disappeared, the throat condition cleared up, and the temperature had fallen to 99·2° F. The patient made an excellent recovery. Case 2 was that of a man who complained of sore-throat and swollen cervical glands. Examination revealed intense redness and swelling of the right tonsil, the whole of the soft palate and uvula, and dark red swelling of the posterior pharyngeal wall; there was also slight œdema of the epiglottis. The temperature was 104·6° F. and his general condition was bad. There was no history of anything likely to cause the throat trouble. The urine, heart, and the lungs were normal. The patient refused admission to the hospital Swab cultures from the throat showed streptococcus infection The further history of the case was unknown. Case 3 was that of a man who complained of sore-throat, loss of voice, and dysphagia of from two to three days' duration. Examination revealed acute gangrenous inflammation of the lower half of the uvula and acute œdematous inflammation of the soft palate and to a less degree of the tonsils. There was also extensive œdema of the left ary-epiglottic fold. The patient's general condition was bad; the temperature was 101·2° F. He was admitted to hospital. Swab cultures showed the presence of the streptococcus pyogenes. A dose of 20 cubic centimetres of anti-streptococcic serum was at once injected and pure carbolic acid was rubbed into the uvula; five hours after the injection the patient, who could not swallow before, was able to do so and felt much better in himself. No further injections were necessary and the patient made an uneventful recovery. Case 4 was that of a man, aged 21 years, who was admitted to the hospital with sore-throat followed by a swelling in the neck. When first seen the patient was partly unconscious, had great pain and difficulty in swallowing, and great pain over the heart. The temperature was 101·4° F., having been 103° during the night. His general condition was very bad Examination showed acute septic pharyngitis, deep glandular inflammation, and pericarditis. The mucus from the throat and the fluid evacuated from the glands showed on examination, both in cover-glass specimens and upon cultivation, mainly streptococcus pyogenes. 10 cubic centimetres of anti-streptococcic serum were injected three times during the first 24 hours and once during the next 24 hours. The effect was remarkable, the patient beginning to rally at once. He made an excellent recovery. Of the above four cases the first would be called by some "cutaneous erysipelas of the pharynx," the second "œdematous" or possibly "plegmonous pharyngitis," the third "gangrenous uvulitis," and the fourth "phlegmonous pharyngitis." Yet they were all of the same nature—namely, acute septic inflammations of the throat—in all the streptococcus pyogenes was present, and in three out of the four treatment by injections of anti-streptococcic serum was successful. In Sir Felix Semon's paper four objections were advanced by him as likely to arise with regard to his views on acute septic inflammations of the throat and neck. Firstly, "that he had given no proof that the milder cases in his series were really of septic origin and that they might well have been simple catarrhal inflammations." As no bacteriological examination was made of his cases it was open to anyone to deny the certainty of their septic origin. Of the four cases here recorded No. 1 was certainly of a mild, local character and No. 2 fairly so—at all events, it was analogous to No. 4 in Sir Felix Semon's series—yet in both these cases streptococcus pyogenes was present and the clinical symptoms were far greater than in simple catarrhal inflammation. The bacteriological examination of these cases tended to prove, therefore, that these milder cases were of a septic nature and this was strengthened by their clinical character and course. Secondly, "that the different localisation in Sir Felix Simon's cases—namely, whether originating in the pharynx, larynx, or cellular tissue of the neck—spoke against their being identical." This objection did not hold good. The different localisation of these septic inflammations of the throat depended on the resisting powers of the parts attacked, an accidental breach of surface or a pre-existing condition of catarrh rendering the parts more susceptible to infection. Thirdly, "that the variations in the fever curve in Sir Felix Semon's individual cases also seemed to point in the direction that this fever was caused by different and not identical processes." Mr. de Santi considered that the temperature in these cases was bound to vary as in other diseases, according to the resulting inflammation, whether œdematous, suppurative, or gangrenous, and according to the amount of poison absorbed. He did not, therefore, consider that objection No. 3 was valid. Fourthly, "that the fact that the exudation sometimes being of a serous and sometimes of a purulent character most powerfully combated the view that these inflammations were identical in nature." This, perhaps the most important objection, had to be combated mainly from a bacteriological point of view. The present-day opinions were: (1) that the streptococcus pyogenes and other pyogenic cocci could produce apart from purulent inflammations all other forms of inflammation such as serous, fibrinous, hæmorrhagic, and gangrenous inflammation; and (2) that the variety of inflammations resulting depended on (*a*) the quantity; (*b*) the virulence of the organism introduced into the system; and (*c*) the resisting powers of the subject inoculated. It seemed, therefore, that the conclusions were amply sufficient to account for the differences in not only the fever curve of these acute septic inflammations of the throat, but also for the differences in the kind of inflammation resulting—namely, œdematous, purulent, or gangrenous. He therefore entirely agreed with Sir Felix Semon's conclusions as regards the probable pathological identity of these acute septic inflammations of the throat and thought that the four objections referred to could be refuted in the light of the four cases brought forward by himself. He had adduced evidence of the presence of the streptococcus pyogenes in all his cases and of the identity clinically of his series with that of Sir Felix Semon, and had stated the excellent results that had occurred from the injection of anti-streptococcic serum. As regards the treatment of acute septic inflammations of the throat with anti-streptococcic serum, he wished to point out that unless the streptococcus pyogenes was found it would be worse than useless—indeed, dangerous—to give these injections.

Dr. DE HAVILLAND HALL said that he had the pleasure of opening the discussion which took place on Sir Felix

Semon's paper in 1895. He considered that the bacteriological examination in these cases was of special importance. This class of case was severe and unless promptly dealt with often proved fatal. The meaning attached to the word 'pathological identity" was of great importance. In Mr. de Santi's cases examination had shown that the same micro-organism was present in each case, but he considered that similar clinical conditions might be produced by various micro-organisms. The late Professor Kanthack had shown that ulcerative endocarditis might be due to a variety of organisms; clinically these cases were identical; pathologically they were not identical. He referred to three cases of acute infection of the throat in children which clinically had the aspect of diphtheria, but bacteriological examination showed that they were due to staphylococcic infection and not to the diphtheria bacillus.

Sir DYCE DUCKWORTH said that he had always considered that there could be all degrees of inflammation, from a slight inflammation to the severest forms of Ludwig's angina, produced by the various forms of streptococcic infection. He advocated the use of mixed sera in the treatment of these cases since it was always uncertain what variety of streptococcus was being dealt with. He had never seen any harm come from the injection of such sera.

Mr. E. B. WAGGETT pointed out that all of the cases recorded by Mr. de Santi were men in the prime of life. His own experience led him to believe that the disease usually attacked young men in good health. He related the case of a young man who during the first three days of illness had sore-throat but no symptoms of severity; on the fourth day, however, he had acute swelling of the fauces and uvula with swelling of the neck. Pus was evacuated by an incision in front of the sterno-mastoid and the patient made a good recovery. He advocated immediate operation in all such cases The condition, he believed, depended on the virulence of the organism.

Dr. J. DUNDAS GRANT said that the symptoms of this affection were constitutional as well as local and that in some cases the local throat symptoms might be slight when the constitutional symptoms were most severe. The aspect and the voice of these patients often suggested the presence of a peri-tonsillar abscess, but on examination no such swelling could be detected and he considered that that symptom was of great diagnostic value. He related a case of rapid death from laryngeal obstruction in such a condition. He asked Mr. de Santi if he had any evidence showing that there was any danger in the use of anti-streptococcic serum. He thought that great relief was often obtained from the use of ice and he had never seen any harm result from its use.

Dr. F. J. POYNTON said that to distinguish between the varieties of streptococcus pyogenes it was necessary to employ other methods than cultivation and the consideration of morphological characters, as, for example, experimental injections and such bio-chemical tests as Marmorek's filtration test, investigations on hæmolysis, bacteriolysis, agglutination, and specific immunity. If the unity of the streptococcus was accepted in the present state of knowledge he thought that the result would be to attempt to explain clinical difficulties by referring them to an insecure bacteriology. He would accept for argument's sake this unity and turn to the explanation that was then given of the differing clinical results. They were explained by (1) the number of organisms that gained access; (2) the intensity of the virulence; and (3) the resistance of the individual. But were these sufficient? He thought not, and detailed a recent investigation he made on this subject with Dr. A. Paine. A student pricked his finger at a post-mortem examination on a case of suppurative peritonitis; he developed alarming symptoms, and was threatened with acute septicæmia. Fortunately his resistance proved successful, though an abscess developed in the axilla; from the pus they obtained an organism which might be justly called the streptococcus pyogenes. At the same time they isolated a streptococcus from a case of malignant endocarditis. Both these they placed in the same medium, a slightly acid one (not the most favourable for maintaining the virulence). Thence they transferred them to blood-agar. Two rabbits living under the same conditions and from the same litter were inoculated intravenously with these results. A small dose from the septic case produced death in 24 hours with septicæmia; a large dose from the case of endocarditis produced death in five days from malignant endocarditis of the mitral valve, the specimen of which he showed. Wherein lay the explanation of the different results? Not in (1) the number of organisms injected, for the fewer organisms produced the most fatal result; probably not in (3) the nature of the resistance, since the two rabbits were much alike; but very plausibly in (2) the difference of virulence. They carried on the original cultures in the acid medium for three weeks and repeated the investigation. One rabbit was injected intravenously from the septic micro-organism and one subcutaneously and two more in the same way with the organism from the case of endocarditis with these results. The two rabbits injected with the septic micro-organism died on the second and tenth day respectively from septicæmia; the rabbit injected intravenously with the other microbe died on the fourteenth day from malignant endocarditis of the aortic and mitral valves; that injected subcutaneously developed a firm nodule at the point of inoculation which disappeared and the animal recovered. They waited another three weeks and again repeated the investigation and this time all the animals recovered. He thought then that factor (2)—the intensity of virulence—had been altered in each case to practically a zero. He believed there was a fourth factor—viz., a tendency inherent in micro-organisms to produce special poisons, a specific toxicity which had to be reckoned with in all investigations on the unity of the streptococcal group.

Sir FELIX SEMON said that when he brought forward his paper in 1895 it had met with considerable opposition and he believed that arose, firstly, because the diseases which he had classed together had always been considered so entirely different clinically; secondly, because he had used the words "pathological identity," meaning thereby the same morbid process and not the identity of the micro-organism; and, thirdly, because of the uncertain state of bacteriology at that time. He believed that any organism of the pyogenic group could produce this affection. He considered these cases of the greatest practical importance and since 1895 he had seen five cases. He agreed with Mr. Waggett in believing that the disease usually attacked individuals in good health, but they often had had sugar in the urine either at the time or at some time previously. He described the five cases, in three of which death occurred, while in the other two recovery took place. The prognosis in the severer cases was very grave. He was in favour of using anti-streptococcic serum, but as he believed there was a specificity in the sera and that the disease might be caused by any one of the pyogenic groups the sera would not be equally beneficial in all cases.

Mr. DE SANTI replied.

MEDICAL SOCIETY OF LONDON.

Discussion on the Treatment of Epilepsy.

A MEETING of this society was held on Feb. 9th, Mr. A. PEARCE GOULD, the President, being in the chair.

A discussion on the Treatment of Epilepsy was opened by Sir VICTOR HORSLEY and Dr. J. S. RISIEN RUSSELL.

Dr. RUSSELL commenced by remarking that he would confine his attention to idiopathic epilepsy—i.e., that which arose without apparent cause. The ideal to be secured was a plan of treatment which was based on a knowledge of the etiology and pathology of the affection and which aimed at removing or antagonising the cause. He would first consider whether any researches had supplied evidence that could be regarded as positive or reasonable proof of the etiology and pathology of idiopathic epilepsy. The brains of epileptics showed degenerative changes, but there was as yet no unanimity of opinion as to how far these morbid changes were responsible for the clinical manifestations of epilepsy and how far they were merely evidences of the destructive effects of the storms. Of the various theories advanced to explain the occurrence of epilepsy, that which supposed that epilepsy resulted from an auto intoxication had received most acceptance, though it could not be said to be proved. Some considered that the affection was due to the incursions of micro-organisms; but this view was equally without satisfactory proof. Indeed, in spite of all the researches that had been made they were still in ignorance of the eesential cause of epilepsy. Nevertheless, treatment had been initiated which presupposed that epilepsy was due to the action of some poison which reached the nerve elements by way of the blood stream. In the hope of establishing immunity serum obtained from a patient with severe epilepsy had been injected into another