

Jan. 6th, 1895, after a week's illness, with membrane on both tonsils and in the trachea. Tracheotomy was immediately performed, and 10 c.c. of antitoxin were injected. The temperature rose to 102.4° F. during the night, but there was less membrane to be seen next day. The urine contained one-half albumen; 8 c.c. of antitoxin were again injected. On the 9th another 5 c.c. of antitoxin were injected, the temperature being 101.6°. The membrane gradually diminished and finally disappeared by the 11th; there was now only a trace of albumen. Considerable difficulty was experienced in trying to do without the tracheotomy tube, and it could not be left out altogether until the 22nd. The patient was discharged on Feb. 8th with weakness of the right side and the knee-jerks absent, but was readmitted on the 13th under the care of Dr. Poore with lobar pneumonia. Numerous bacilli were found soon after his admission.

CASE 13. *Pharyngeal diphtheria; slight paralysis.*—The patient, aged ten years, was admitted on Jan. 29th, 1895, with membrane on both tonsils and on the uvula, and a trace of albumen in the urine, having been ill three days; 10 c.c. of antitoxin were injected, and again 10 c.c. next day (the 30th). The throat cleared up gradually, and by Feb. 4th no membrane could be seen. The knee-jerks were absent from an early stage of the illness, and were still absent on March 1st. Diphtheritic bacilli were found in cultivations.

Remarks by Mr. BUNCH.—The percentage of deaths (15.4) in this series of cases is considerably below the average of deaths from diphtheria, and even of those cases previously treated with antitoxin in University College Hospital. The number of cases is, of course, too small to afford statistics of value, but it may certainly be said that the cases were at least of average severity. The antitoxin previously used in University College Hospital was obtained from a different source to the Institute of Preventive Medicine, but the objection urged against the latter that the injections are rather bulky was found in practice to be of little weight, for the swelling soon subsided, and in no case was inflammation set up around the point of injection. There was, however, some amount of tenderness, varying with the age of the patient. The three cases in which a rash appeared after the injection of antitoxin are of interest, for in every case the eruption was accompanied by a rise of temperature, and in one case by rather severe pains in the limbs, causing the child to cry out with pain. In this case the rash appeared fifteen days after injection, and presented an appearance markedly resembling that of röteln. In another case the rash came out nine days after injection, and was more of an erythematous character. In another child a rash appeared twice with an interval of six days, the first time eight days after injection. It seems possible that some impurity or septic material was contained in the fluid injected, for the strictest antiseptic precautions were taken to sterilise the syringe and needle, and disinfect the skin. Two of the cases which thus developed a rash progressed very slowly, and one eventually died from suppression of urine. Though the total number of deaths was so small, it could not be said that the membrane disappeared immediately after antitoxin had been injected, or even that the albumen always diminished, for in one case membrane was seen fifteen days after the first injection, and albumen appeared in the urine a few days after the injection, though none was present on admission. One of the children on whom tracheotomy was performed was only one and a half years old, but she stood the operation well, and recovered rapidly.

BROMLEY AND BECKENHAM FEVER HOSPITAL.

THREE CASES OF DIPHTHERIA TREATED WITH ANTITOXIN SERUM; TRACHEOTOMY PERFORMED IN TWO OF THE CASES; RECOVERY IN ALL.

(Under the care of Dr. G. W. DAVIS and Mr. R. A. SHANNON.)

WE are hearing much more hopeful accounts of the results of tracheotomy and intubation in diphtheria under the antitoxin treatment in our large hospitals than was the case a few months ago, but we cannot at present furnish statistics on this point. The communication to the Société Médicale des Hôpitaux of MM. Labreton and Magdelaine, besides furnishing evidence of the general value of the remedy when used by them at the Hôpital des Enfants Malades, gives also some account of the results obtained when it was necessary to perform one of these operations. Two hundred and fifty cases were treated by

the antitoxin treatment in a period of three months, with a mortality of 9.2 per cent. After tracheotomy (the cases requiring it are always serious) there was a mortality of 37.5 per cent. After intubation the mortality was 15.9 per cent. when those dying within twenty-four hours after admission from lung complications or general intoxication were deducted. The three cases here reported were all of them affected with undoubted diphtheria, proved by bacteriological investigation in one of the cases, and clinically evident in the other two. Mr. Shannon and Dr. Davis believed that not one of the cases would have recovered but for the use of antitoxin.

CASE 1.—A male child, eighteen months old, was first seen at midday on Oct. 17th, 1894. The infant was suffering from diphtheritic sloughs on both tonsils, croupy cough, and inspiratory retraction of the intercostal spaces and ensiform cartilage; the temperature was 102° F. (The Clinical Research Association confirmed the diagnosis by telegram on the 18th: "Many Klebs-Löffler bacilli.") At 12.30 P.M. seven minims of Aronson's antitoxin were injected into the left forearm. At 4 P.M. the arm was swollen and red. The cough was very croupy in character; the child refused all food. There was marked retraction of the supra-clavicular and infra-clavicular area in inspiration. At 10 P.M. the retraction was more marked. There was retraction of the entire sternum in forced inspiration. A second fifteen minims of antitoxin were injected into the right forearm. On the 18th, assisted by the parish nurse, Dr. Davis administered chloroform and performed tracheotomy at 1 A.M. At 10 A.M. the child breathed easily. The tube was cleaned every two hours. At about 6 A.M. the patient became very collapsed, but rallied. At 12 (midday) there was abundant membrane in the tube: one pint of milk had been taken since the operation. On account of the offensive character of the stools three grains of calomel was ordered. At 4 P.M. the tube, nearly choked with membrane, was difficult to clear. The child took milk well. The wound was becoming sloughy. At 8 P.M. he was pale and ceased to care for his milk; the membrane was increasing in quantity, and the temperature was 100.8°. A third fifteen minims of antitoxin were injected into the left forearm. On the 19th sixteen ounces of milk had been taken during the night. From this time the child passed from Dr. Davis's care to that of Mr. R. A. Shannon of the Bromley and Beckenham Joint Fever Hospital. On the 28th it was necessary to clean the cannula every two hours night and day; the whole tube was removed every day, but great embarrassment and lividity occurred, so that it had to be replaced. The membrane from the cannula was sent to the Clinical Research Association, and the following report was received: "No bacillus diphtheriæ; numerous streptococci and staphylococci." On the 30th a soft rubber tube was substituted for the silver one. A drop or two of a solution of menthol in olive oil (two grains to the ounce) was introduced into the tube every half hour, after the suggestion of Dr. Roux. Very severe coughing followed upon the introduction of the rubber tube. At 4 A.M. on Nov. 2nd the matron was urgently called by the night nurse, and found the child apparently dead and cold. The tube had been coughed out, one of the eyelet holes for the tape having split. With commendable presence of mind she replaced the tube and performed artificial respiration, and had the satisfaction of seeing the child revive. The tube was held in place until another could be obtained. On the 8th a fenestrated rubber tube was substituted. On the 17th the child was quite well, but it was found impossible to do without the tube. The child was discharged wearing the tube, in the hope that after remaining some days at home he might be removed to a general hospital. The air of a poor and crowded home set up symptoms which threatened septic pneumonia, so that on Nov. 21st Dr. Davis sent him to St. Thomas's Hospital, asking if he could be admitted and an endeavour made to wean him of the tube; this was done, and he was discharged cured on Jan. 11th without the tube. Whilst at St. Thomas's Hospital a second tracheotomy was performed below the first, and the trachea above dilated.

CASE 2.—On Nov. 13th, 1894, a girl four years of age was admitted into the Bromley and Beckenham Fever Hospital with severe diphtheritic involvement of the fauces and tonsils, the glands about the angle of the jaw were involved on either side, and the involvement of the trachea was marked with loss of voice and a very bad croupy cough, associated with marked inspiratory retraction. On the 15th the case was one of extreme gravity; the child was voiceless, with a dull,

opaque, bluish-white complexion, was unable to take any nourishment, and from time to time vomited; there were also attacks from time to time of such severe dyspnoea that the case looked extremely hopeless. Under these circumstances Messrs. Shannon and Yolland, medical officers of the hospital, invited Dr. Davis to a consultation on the case, and it was the unanimous opinion that tracheotomy was the only chance. Dr. Davis, having the instruments at hand, was invited to operate, and tracheotomy was performed. He supplied some of Aronson's antitoxin to Mr. Shannon, who injected it as follows: at 4 P.M. on the 15th fifteen minims of antitoxin were injected; at 4 P.M. on the 16th ten minims of antitoxin were injected; at 10.30 A.M. on the 18th eight minims of antitoxin were injected, and fifteen minims at 4 P.M. The rule was adopted to inject every six hours so long as the temperature remained above 100° F. On the 27th the tube was finally removed, and the child was discharged cured on Dec. 8th, 1894.

CASE 3.—A male child eight years of age was seen by Dr. Davis during the afternoon and in the evening of Nov. 20th, 1894. The case was considered from the first to be very grave. The temperature was 102.4° F., the tonsils and fauces were covered with membrane, which had involved the trachea, so that the boy could scarcely utter a sound, and the inspiratory retraction was very marked. The case appeared to be quite hopeless without recourse to tracheotomy, but the parents would not consent to this. At 7 P.M. Dr. Davis injected twenty minims of antitoxin into the left forearm, and the next morning the boy was removed to the Bromley and Beckenham Fever Hospital and was discharged as cured on Dec. 8th. It should be added that, although the evidence clinically in this case was to us both conclusive, the Clinical Research Association reported upon the culture box which Dr. Davis sent as follows: "Evidence of diphtheria probable, not certain. The appearance of the culture is not suggestive of diphtheria. The culture consists: (1) of staphylococci; (2) of larger cocci, probably pneumococci; (3) of a minute bacillus; and (4) of a very few somewhat large bacilli, suggesting degenerate bacillus diphtheriæ."

Remarks by Dr. DAVIS.—The three cases were all partly under my care and under that of Mr. Shannon when they were in the Bromley and Beckenham Fever Hospital. Concerning Case 1 I have suggested to a manufacturer that for the future it would be well that the shield of rubber tubes should be backed throughout with canvas; at present that part of the shield perforated with holes for the tape is not so backed. In the diagnosis of diphtheria I should be inclined to use bacteriological evidence as affirmative, but not as of negative value in cases in which the clinical aspect of the case pointed to diphtheria. Bryant's tubes were those used in the tracheotomies.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Case of Large Pelvic Hydatid successfully treated by Perineal Incision and Drainage.

AN ordinary meeting of this society was held on April 9th, the President, Mr. HUTCHINSON, being in the chair.

Mr. REGINALD HARRISON described a case of Large Pelvic Hydatid successfully treated by Perineal Incision and Drainage. The patient, a physically fine and otherwise healthy man, aged forty-five years, had never suffered any illness before the present. Nine years ago he began to have trouble about the bladder and rectum. This increased to such an extent that he was compelled to resort to large doses of morphia for relief and was disabled from work. In 1893 he left Australia and came to London. Mr. Harrison saw him shortly after his arrival, at the suggestion of Dr. Batten. There was a very large tumour occupying the pelvis and lower part of the abdomen, extending almost to the umbilicus. The pain and difficulty about passing water and motions were excessive. Careful examination and the history led to the conclusion that the tumour consisted of one or more hydatid cysts. In October, 1894, an incision was made through the perineum, corresponding with a lateral lithotomy, but without opening the urethra. The cyst was

reached, and about half a gallon of fluid and cysts was evacuated. The cavity was washed out and drained. The greatest relief was experienced. The cavity gradually contracted and the wound healed. The patient was now in perfect health. The question for consideration in the case of such like pelvic hydatids was as to where the opening should be made—whether through the abdominal wall, through the rectum, or by incision through the perineum, as in the case related. The last method was considered to be the best.

Dr. JOHN HARLEY remarked that in the forty-ninth volume of the Society's Transactions he had brought together over 100 cases of hydatid tumour with a view to prove the futility of simple puncture in these cases, a method which was likely to be adopted by physicians. In the St. Thomas's Hospital Reports he had collected a further 96 cases, and all went to show that a radical cure of a hydatid cyst could not be effected without the discharge of the parent cyst, and the healing of the cavity left after its removal. Puncture was often followed by shrinkage, suggestive of cure, but later either suppuration might occur or slow contraction with all its attendant troubles.

Mr. DURHAM said that hydatids of the abdomen and pelvis were common, but cases precisely like the one previously reported were rare, and successful treatment of them was still more rare. In the case described the hydatid was fixed in the fibrous tissues between the bladder and the rectum, and was not movable, like most abdominal hydatids, except those of the liver. He referred to a case which was admitted into Guy's Hospital under his care with intestinal obstruction and difficulty in passing water. An exploratory operation was undertaken to discover the nature of the trouble, and on opening the abdomen a hydatid cyst was discovered fixed in the pelvis. He opened the cyst, evacuated its contents, and stitched the cyst wall to the abdominal wall. The patient died four days afterwards of acute peritonitis, and at the necropsy a condition was found apparently much like that in Mr. Harrison's case.

Mr. WARRINGTON HAWARD said that a complete cure depended upon the completeness of the evacuation of the cyst. He could not help thinking that in some cases of pelvic hydatids drainage would be very difficult from the perineum. He had to treat a case of pelvic hydatid a few years ago, in which he was able to be confident of the diagnosis because another hydatid cyst existed higher up in the abdomen. In that case he hoped that a complete removal of the pelvic hydatid would have been possible, but the lower part of the cyst was intimately connected with the bladder and rectum, and its pressure on the former viscus had caused retention of urine. If a pelvic hydatid projected up into the abdominal cavity it was better to open the peritoneum and stitch the cyst to the abdominal wall; there would then be no difficulty about cleansing the abdominal cavity and drainage; besides, the abdominal section would render it possible to decide whether other hydatid cysts were present or whether the cyst itself was removable, as in a case recorded by Mr. Jonathan Hutchinson, jun.

Mr. TARGETT gave the reasons which induced him to regard all these cysts as having their origin between the muscular coat of the bladder and the sheath of the recto-vesical fascia. By dissection of all available specimens he had shown that the cysts lay in this position, and in certain dry specimens the vasa deferentia were seen to be separated from the bladder by the cyst. By experiment he had found that it was easy to make such a separation; the finger easily separating the fascial sheath from the vesical muscular wall. In certain cystic protrusions and malignant growths of the bladder developing backwards there was a similar disturbance of the relation of the vasa deferentia to the bladder wall. Hydatid cysts could not arise secondarily in this position. They might rarely begin, as Dr. Fagge had described, by falling into the pelvic cavity after perforating the walls of the stomach, but this method of origin must be very rare. In the cysts which arose under the pelvic fascia the embryos were deposited from the venous plexuses, and the same thing was true with regard to hydatids of bone; they were usually found in the cancellous ends of long bones or in the vertebræ. In bone they were commonly primary, and were often the only hydatid deposit in the body. In Mr. Hunter's case the bladder projected eight inches above the pubes, and a recent dissection showed it to bear the same relations to the vesiculæ seminales as the other specimens referred to.

The PRESIDENT said that some years ago he had published several cases in which recovery resulted from a single aspiration. One such case of hepatic hydatid he some years later