DIPHTHERIA CURED BY ANTITOXIN.

By THOMAS EASTES, M.D., F.R.C.S.
Folkestone.

AN early publication of the following case may enable some lives to be saved, if the result was more than a coincidence:

F. L., aged 10½ years, had on July 8th what appeared to be rather a severe form of catarrhal tonsillitis, with the glands at the angles of the jaw swollen and tender on both sides. On July 9th there was complete local evidence of diphtheria, the fauces were much more swollen, and the left tonsil was covered by thick membrane, there being less on the right. On the 10th both tonsils were very much swollen and projecting towards the middle line, and thickened so as to make a long and deep but narrow chink or channel between them, which was quite enveloped in thick yellowish white membrane, and getting blocked in front by the uvula, which was cedematous and becoming affected. At 1 p.m., July 10th, I injected subcutaneously 5 c.c. of Aronson's diphtheria antitoxin, using Debove's syringe. On the 11th the swelling was less, the whole diseased surface clearly marked off from the healthy tissues and separation had commenced. Pulse until now about 92 to 96 every morning. She felt much better. On the 12th, pulse 88. Much of the membrane separated, the remainder looks softened and breaking down, the surrounding tissues healthy, slight nasal catarrh and irritation, and a sore on the upper lip near the mouth, probably caused by the spray producer. July 13th, pulse 83; much better; throat nearly clean, one patch about the size of half a pea on the left tonsil, and a few shreds scattered about; nose nearly well. On the 14th, throat clean, glands not swollen or tender, pulse 72, child seems quite well. From the commencement I had used vigorous local treatment, with a spray of a strong solution of carbolic acid and iodine, and free doses of perchloride of iron internally, but the disease steadily advanced until July 10th, when the injection was given. The swollen state of the throat was now so bad as to very much nullify any effect the spray might have had when the diseased surface was fully exposed to its action; but the spray had hitherto utterly failed to prevent the local condition becoming very serious and typical of a very severe case. The improvement seemed to commence at once after the injection, as, twenty-four hours after, the surrounding tissues had improved considerably, and there was an evident line of demarcation where the diseased parts were already commencing to separate. I have never before seen a case in which improvement has been so rapid and so soon complete after such a continuous and dangerous increase in the local signs in spite of very thorough and energetic treatment. The antitoxin was supplied by Messrs. Zimmermann, Cross Lane, E.C.

THREE CASES OF CONTAGIOUS PNEUMONIA.

By BERTRAM THORNTON, M.R.C.S., L.R.C.P. LOND.,
Surgeon to the Royal National Hospital for Scrofula, Margate.

THE following brief notes on three cases of pneumonia which occurred in one household within fourteen days may be worthy of record.

CASE I.—On April 12th I was called to see E. P., aged 26, at 8 a.m. He had been in his usual health, and at work up to the previous evening. I found him in a state of collapse, almost pulseless, with respiration 60 per minute, temperature 101°, but cold at the extremities. Under stimulants, etc., he rallied, and it was apparent that he had pneumonia of the left lower lobe. He was nursed by his mother and sister. The disease maintained an asthenic form till he died on April 14th.

CASE II.—On April 20th his sister came to my house with a temperature of 104°, and pneumonia of the right base. She had been taken ill on the previous day. This patient made an uninterrupted recovery.

CASE III.—On April 26th I saw the mother, aged 62, a fragile woman, who was evidently sickening from the same disease. She rapidly developed an asthenic form of pneumonia, with consolidation of the left upper lobe; her temperature never exceeded 102°. She died on May 3rd.

In none of these cases were there symptoms of influenza, and the three remaining members of the household remained healthy. The sister was removed to the hospital; the two fatal cases remained at home, and were well nursed and attended to. The sanitary conditions of the house were bad; among other things the cesspool communicated directly with the house through a soil pipe which was not ventilated; the

water supply to this special closet had been cut off for months. There were no other similar cases in the district.

Out of the six members of the household the three most robust escaped. In the first case, which appeared to be the most virulent in its onset and course, no chill or predisposing cause could be discovered. The interesting problem to decide is whether the obvious insanitary condition of the house was the poisonous influence in these three cases, or whether the son was infected with the pneumonia bacillus outside his home, and his mother and sister, fatigued with nursing him, were rendered specially liable to the infection. Or again, whether sewer gas is a special predisposing cause to pneumonia and allied disorders such as diphtheria and typhoid fever.

Much depends on the solution of these questions. As pneumonia is so rarely a contagious disease in hospitals and well-drained houses, one is tempted to argue that when a series of cases is found in a markedly insanitary house, the sewer gas has some special influence, either direct or indirect, in producing the disease.

There are few things we know less about than sewer gas and its ever-varying constituents; it is time that it should be made the subject of patient investigation. The man who discovers the key to its mysteries will render as great a service to public health as Lister has done in the domain of operative surgery.

Groups of cases similar to those I have briefly recorded may help to indicate the path of research.

A CASE OF DIPHTHERIAL LARYNGITIS IN A CHILD 18 MONTHS OLD, IN WHICH TRACHEOTOMY WAS FOLLOWED BY RECOVERY.

By LESLIE DURNO, M.D.,
Stoke Newington, N.

On first seeing E. L., a very stout male child, 18 months old; there was a large patch of diphtherial membrane on each tonsil, and the cervical glands on each side very much swollen.

Despite active treatment, both locally and generally, with generous diet and liberal supply of stimulant, the symptoms continued to get worse. On the evening of the fourth day the temperature was 102° F., pulse 130, respirations 32. The exudation had extended considerably and was gradually invading the uvula, soft palate, and pharynx. The character of the cough and breathing left little doubt that the larynx in turn was becoming involved. An efficient emetic was ordered at stated intervals, and imperative instructions given to warn me should the breathing get worse.

Responding to a hurried message on the morning of the fifth day, I found the child becoming deeply cyanosed and fighting for his breath. There was evidence of commencing congestion at the base of both lungs. Dr. A. Felix Stevens, who saw the patient along with me, agreed that tracheotomy was the only hope of saving life. The child was anaesthetised, and I proceeded with the operation at once. From the excessive turgescence of the cervical veins, the venous hæmorrhage was very profuse, but the child was almost moribund from rapidly approaching asphyxia. So naturally the question very forcibly presented itself, was it right to prolong the operation in attempting to arrest the hæmorrhage before opening the trachea? The extreme condition of the patient in my mind afforded no time to hesitate. I opened the trachea in the midst of very considerable venous hæmorrhage, turned the patient almost on to his face, and kept the tracheal opening patent with dressing forceps.

The obstruction was removed, the dyspnoea relieved, the venous tension lessened, and the hæmorrhage reduced to a minimum almost at once. A silver bivalve cannula was introduced and fixed, and the little patient replaced in his semi-canopied bed, breathing a moist, warm atmosphere impregnated with eucalyptus.

On the second day after operation the temperature was 102.5° F.; pulse 140; respirations 38. The wound, swollen and

unhealthy-looking, was powdered with iodoform and douched with 1 to 40 solution of carbolic acid every three hours.

On the third day the temperature was 101.5° F.; the pulse 130; and the respirations 36. The wound was completely covered with membrane, and the neighbouring tissues were very much swollen and infiltrated.

On the fourth day the temperature was 100° F.; the pulse 120; the respirations 30. The wound was healthier, and the swelling had decreased. The silver cannula was replaced by one of Dr. Baker's india-rubber cannulas.

On the fifth day the temperature was 99°; the pulse 110; the respirations 28. The wound was almost free from membrane, and the general condition was good.

On the sixth, seventh, and eighth days the treatment was continued, and the symptoms improved.

On the ninth day the tube was removed, and the powers of natural breathing tested by occluding the tracheal opening with the finger. Exhalation was performed freely and well. Inhalation at once induced spasm, and the tube had to be re-introduced. At half an hour's interval a second attempt met with the same result.

On the tenth, eleventh, and twelfth days the tube was removed for a longer period each day; and on the thirteenth day it was removed altogether.

On the eighteenth day the child was perfectly well, the voice had returned, and the wound had completely healed up.

REMARKS.—The discouraging effect which the unfortunate very high mortality of tracheotomy for diphtherial laryngitis in children under 2 years of age has on the mind of the general practitioner prompted me to give a full account of the successful issue of this case. The features of special interest are:—That the case was conducted at the patient's home; that the father, an intelligent artisan, nursed the child faithfully and well, single-handed, for the first five days and nights; that the parent's consent (often the chief source of delay) was obtained well in advance; that the operation was suggested before the lungs were affected to any extent; that the venous hæmorrhage, which was very profuse, practically ceased on opening the trachea; that stimulants (brandy) were freely given throughout the case, and that the child was entirely well by the eighteenth day after the operation.

SUGGESTIONS FOR THE TREATMENT OF PANCREATIC DIABETES.

By J. McNAMARA, M.D., B.Ch., B.A.O.R.U.I.

In a paper recently read before the Académie des Sciences, Paris, M. Kaufmann has given the results of very interesting experiments which he performed on dogs. He has proved that the internal secretion of the pancreas (that is, the secretion which, instead of passing along the pancreatic duct, is reabsorbed by the blood vessels) has an inhibitory influence on the formation of sugar in the liver. He has proved that this influence is exerted not merely through the nervous system, but through direct action on the liver cells. Removal of the pancreas, or excessive diminution of its internal secretion, is followed by hyperglycæmia and glycosuria. Exaggeration in the activity of the internal secretion produces hypoglycæmia.

From these facts I would suggest as the treatment of pancreatic diabetes the administration of fresh, uncooked, pancreatic extract, not by the mouth, for this has been already tried, with failure, nor hypodermically, but through the rectum, and, if necessary, through the rectal veins.

The failure which has followed the administration of pancreas through the mouth may be due to the fact that the secretion of the stomach neutralises the products of the pancreas, or, as I believe is more probable, it may be due to the fact that when administered in this way the sugar-restraining pancreatic element, instead of entering directly the portal vessels, as it normally does, gets absorbed by the lymphatics of the alimentary canal, and so passes into the general circulation. If any of it at all should ultimately reach the sugar-forming cells of the liver from the general circulation, it would probably be in a form so altered or so

diluted as to be useless. The consideration of the wonderful ways by which Nature adapts her means to her ends would lead us to believe that there is some good reason why this mysterious sugar-restraining element is not allowed to enter the alimentary canal like the other products of the pancreas, and I would suggest the likelihood of its absorption by the lymphatics and subsequent destruction in the general circulation as the explanation. For the same reason, administration of pancreatic extract by hypodermic injection would probably be useless.

The case of the pancreas is not analogous to the case of the thyroid. The products of the thyroid gland pass directly into the general circulation. The sugar-restraining element of the pancreas must first do duty in the liver.

As regards rectal administration, we have of course the same difficulty to contend against. The lymphatics of the rectum, like the lymphatics elsewhere, lead to the general circulation. To get over this difficulty I would make the following suggestions. In the first place, after clearing the rectum by a purgative enema, I would inject a large quantity of pancreatic extract, a quantity too large for the lymphatics to take up at once. In this way it is possible that some of the extract might find its way directly into the capillary blood vessels and thence into the portal veins. Should this method not be followed by satisfactory results, I would suggest the injection of pancreatic extract into the sub-mucous tissue of the anus or rectum. An ordinary hypodermic needle would serve for the anus, but for the rectum some modification in the needle and a speculum would be required.

This method would not be free from certain dangers, for instance, the formation of abscess in close proximity to the rectal veins, with consequent danger of pyæmia; or perhaps peritonitis from pushing the needle into the peritoneal cavity; or, again, the injection of a systemic vein with a substance of unknown action. The effect of injecting a systemic vein with pancreatic extract could, however, be ascertained by experiments on animals.

Here I may remark that injecting a portal vein is a very different thing from injecting a systemic vein. It is now known that peptones and some other products of digestion when injected into any vein, except a portal vein, will produce convulsions, coma, and death. But these difficulties are of small importance when we consider that pancreatic diabetes under present methods of treatment has but one termination, and that the grave.

Since these thoughts occurred to me I have had no case of pancreatic diabetes. Being unable, then, to subject my theories to the test of experiment, I offer them as suggestions to any members of the profession who may be more fortunately circumstanced.

TWO OBSCURE CASES OF POST-INFLUENZAL CEPHALALGIA ENDING FATALLY.

By F. MORTIMER ROWLAND, M.B.CANTAB., M.R.C.S.
Lichfield.

THE two following cases are of extreme interest from their similarity and obscurity, and, so far as I am aware, from no such sequence of influenza having as yet been recorded. The chief points to be noted are briefly:

1. Influenza of no great severity was the illness preceding—in Case A, immediately; in Case B, a few months.
2. Mental trouble was a prominent factor.
3. With the exception of typhoid (?) fever both had fairly good health, and were robust without any trace of a syphilitic or tuberculous strain.
4. The sudden fatal termination after apparent improvement.
5. The obstinate constipation until the partial improvement began.
6. Absence of vomiting.
7. The gross retinal lesion in A, and its absence in B.
8. The sudden onset—in A. with a convulsion, in B. without—in both with syncopal symptoms.

CASE A.—J. R., aged 46, but looking 60, a tall, fine-looking, well-built man, had "typhoid" five years before he came under treatment. He had lost his wife in March, 1893, and was "never the same man again." On