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

May 3rd, 1893, he sickened with influenza, which, under treatment, ran a usual course. On the 10th day he was fit to go out, "but caught a chill." Four days afterwards (that is, a fortnight from the commencement) he was suddenly taken with a convulsive attack, followed at intervals by alarming syncopal symptoms for a few hours; he complained of agonising pain in his head and back. Treatment by bromides, chloral, ice, blisters, and leeches, produced no material improvement. He complained of increasing dimness of sight, and ophthalmoscopic examination showed a perfectly black fundus. He became totally blind to everything in front of him, but could distinguish a little as objects passed at his side. Extensive hæmorrhage behind both retinæ was diagnosed, except at the margins, where it remained intact. The urine was normal. The temperature ranged between 99° and 100°. Towards the end of June, 1893, he had greatly improved, and was able to get about led by the hand. He lost all the pains in the head and back, and was only troubled by his blindness and a feeling of weakness. The pupils were equal and normal. On July 24th, 1893, he consulted an oculist at Nottingham, in whose waiting room he had a succession of "fits," with deepening coma. He was removed to the hospital, and died the same evening. No *post-mortem* examination was permitted.

CASE B.—Mrs. H., aged 47, a stout woman, had had eleven children living and eleven miscarriages. She had had "low fever" twice four years before she came under treatment, and "influenza" in November, 1893, for which she did not consult a medical man, "as it was like a previous attack," but she was in bed several days. She had not felt quite the same since, and had been a good deal worried by business matters. On May 16th, 1894, she was suddenly seized with great pain in the head (chiefly occipital) and "bottom of back," and faintness. When seen she was blanched, as if from severe hæmorrhage. Mustard plasters, blisters, and bromides were ordered, and in view of the possible rheumatic origin of the symptoms, she was given large doses of salicylates. Antifebrin, exalgin, and nitro-glycerine were tried at intervals, but with no good result. On May 24th there was slight discharge from the right ear, which soon ceased without influencing the pain. She was put on a mixture containing cannabis indica, gelseminum, and diaphoretics, together with occasional doses of pilocarpin, and slowly improved. On June 3rd she was able to sit up in bed, the pain being present only at intervals, whereas previously it had been constant with frequent agonising exacerbations. On June 5th she was feeling much better, but at 4 P.M. she suddenly became paralysed on the left side of the face, with stertorous breathing. The pupils were equal at first, but there was no reaction to light. Gradually the left pupil enlarged and then became small, and the right pupil followed suit. The knee-jerk was exaggerated on the left side, and there was twitching of the arms. She died the same night. No *post-mortem* examination was permitted. The temperature throughout was normal and subnormal, and the urine healthy.

In both these cases, more especially A., there seems no doubt that influenza was the primary cause of the altered tissue condition that led to the attack, mental worry being possibly a determining factor. As to the exact pathology, there will always be a doubt owing to the lamentable refusal of the *post-mortem* examination. The course and symptoms of both cases pointed to meningeal trouble primarily, with possibly secondary affection of cerebral tissue, and it is rather from the termination of the cases that the condition seems to imply that the primary lesion was in the cerebral substance itself. Whether the fatal ending was due to the rupture of blood vessel, abscess, or cyst, or to some other cause, cannot be decided, but from Case B. it would seem that there had been a rupture into the ventricles, or that their internal pressure had been otherwise suddenly raised. I have to thank both Mr. Welchman and Mr. Morgan, who saw the case in consultation, for many valuable hints and suggestions.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

ABSCESS OF ANTRUM AFTER INFLUENZA COMPLICATING POLYPI.

Mr. B., aged 68, sent for me on April 26th to examine his nose with a view to removing some polypi which were obstructing both nostrils, and had existed for some seven years and a half. Both nostrils were engaged, and the right closely packed, and the thickened ends of two polypi protruding through the anterior nares. His right cheek was greatly swollen, œdematous, but brawny and congested. The lower eyelid was much discoloured, but the eyeball did not protrude. His palate was very much swollen on the right side, and the adjacent gum much thickened, and of a deep red colour. There were no teeth in the upper jaw; the soft palate was depressed, and incapable of being elevated. He complained of a great deal of pain, which was worse at night, over the cheek bone, upper and lower alveolar margins, also

over the region of the superciliary ridge, and the distribution of the nasal nerves. He had a good deal of lachrymation, and complained of inability to drink with ease and to feed himself comfortably, as he felt choked for want of air when his mouth was engaged for other than breathing purposes. Little pieces of tissue-paper were in constant requisition to prevent the mucous discharge from dropping on his clothes. He had had no peace night or day since influenza some months earlier. He was deaf on the right side, and complained of crackling noises in his ears. He had neither taste nor smell.

On May 1st I removed six polypi from the right and two or three from the left nostril. There was some hæmorrhage afterwards, and some discharge of blood-streaked mucopurulent matter. The patient had two syncopal attacks during the operation, but I managed to complete it by frequent administrations of brandy. He confessed himself next day much relieved. A few days after he caught cold; the discharge, which previously had been very free, was somewhat checked; the pain in the cheek and eye returned with great violence, and his mouth and gum became again very painful and swollen. I diagnosed an abscess, and wanted to perforate the floor of the antrum, but he refused, so I recommended frequent bathings of the cheek with hot water, and the same to be held in his mouth. On May 14th the abscess opened itself, and discharged very foetid pus somewhere about the situation of where the first and second molar teeth should have been. He was then greatly relieved, and the cheek became much less swollen and tender.

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DYSENTERY AND TROPICAL LIVER ABSCESS.

FOR about three years, from February 1857, I made or assisted to make nearly all the *post-mortem* examinations in the military hospital at Hong Kong; these largely consisted of cases of dysentery. I do not recollect finding a single case of hepatic dysentery during that period. I saw a case at that station in 1880. The patient had been for some time under treatment for dysentery; he was apparently recovering, but suddenly became worse and died. At the *post-mortem* examination a small abscess was found in the liver; the colon was adherent to the anterior edge of the liver; there were old and recent scars of ulcers in the colon—one in the neighbourhood of the adhesions contained puriform contents—ultimately a fistulous communication with the liver was discovered. There was a difference of opinion as to the primary seat of mischief; my own view was that the dysentery preceded the abscess.

The liver requires a normal quantity of blood of unexceptionable quality to carry on its functions. When climates, or diets, or modes of life combine to deprive it of a healthy supply of material in quantity or quality, the result must be deterioration; and if, superadded to this, no viscus takes on the depurative action of the liver, this condition may end in abscess.

In dysentery the colon, I venture to think, takes on a depurative action; this supplies a reason why abscess of the liver and dysentery rarely occur together. Certainly, so far as my experience goes in India, I rarely came across abscess of the liver. I had plenty of cases of dysentery; these I always fed well; when milk could not be digested—known from lumps of casein in the stools—I used meal food. The first treatment of dysentery I take to be well known: calomel and ipecacuanha, each three grains, followed two hours later by a dose of castor oil. This clears the gut well out, and leaves nothing deleterious to be absorbed. Treatment by ipecacuanha is now begun by the mouth or anus. I advocate the latter, because a small dose is as beneficial as a larger one, and creates no nausea. In 1857 I began to use 10 grs. of ipecacuanha, with 30 drops of laudanum in 2 ounces of starch as an enema twice or thrice a day; infusion of bark and effervescing saline by the mouth. For chronic dysentery I used 5 grs. of the same, with 5 grs. of extract of hemlock as a suppository twice a day. The patient need not be confined to bed, nor too much restricted in diet, unless he have tenderness in the course of the colon; the position should then be strictly horizontal, and no tobacco should be allowed. When narrating this mode of treatment to the late Dr. George