

We usually commence with an initial dose of 50 million, followed in 24 hours, if necessary, by another injection of 100 million, and in some cases we have even given 150 million, with apparently excellent result. I consider the question of dosage by far the most important of all, and as the result of a large experience I am convinced that the vaccine itself is harmless, and I have never noticed anything but a good effect from its use. There can be no question that in a certain proportion of cases it appears to have no effect, and does not seem to influence the progress of the disease one way or another. On the other hand, in a great many cases an injection of a large dose is followed by a feeling of comfort and relief, associated with a rapid fall in the temperature and slight improvement of perspiration.

#### *Effect on Crisis.*

The administration of vaccine does not seem to have any appreciable effect in hastening the crisis in an ordinary case of pneumonia. The old teaching that pneumonia is a self-limited disease seems still to be true, and I cannot say that I have observed any shortening of the period of fever after the use of vaccine or serum. There is frequently a sudden drop of two or three degrees after a large injection of vaccine, constituting a sort of pseudo-crisis, but unfortunately after a few hours the temperature again rises until the true crisis appears. It seems to be necessary before a crisis occurs that a sufficient amount of anti-pneumotoxin should be formed in the blood to exactly counterbalance the amount of pneumotoxin.

The effect of vaccine on the pulse is always good, often reducing it in an hour by 30 or 40 beats, but in a few cases in which the blood pressure was taken no appreciable difference was observed.

#### *Other Pneumococcal Infections.*

Following the general rule of vaccines, we would expect to find better results in more or less subacute or chronic pneumococcal infections than in virulent pneumonia. I have only used vaccine in one such case—viz., a general pyæmic condition with numerous abscesses in many parts of the body, following an attack of lobar pneumonia. Undoubtedly we observed excellent results follow each injection and an apparently hopeless case was transformed into a complete cure.

The delirium which so frequently accompanies pneumonia of the apex is possibly explained by the direct lymphatic extension to the brain of a localised pneumococcal meningitis, and we have observed that in such cases the administration of vaccine is nearly always followed by diminution of delirium and a tendency to natural sleep, but often only of a temporary character. It would seem to me that the ideal treatment of pneumonia would be by means of an anti-pneumococcus serum, but so far we have not succeeded in obtaining one, owing to the difficulty in immunising an animal. I believe, however, that if the serum of a patient who has just had a crisis could be obtained in sufficient quantity it would act as a true antitoxin in a case of pneumonia, exactly as in the case of diphtheria.

In conclusion, I would like to mention that we have observed a notable absence of complications in those cases treated by vaccines. I do not wish to lay too much stress on this observation, but it is a fact that out of the whole 207 cases not a single empyema has resulted.

I am convinced that we have in pneumococcus vaccine a valuable aid in the treatment of pneumonia, and although not a specific remedy it ought always to be used in those cases of a virulent type which threaten the life of a patient.

I have to express my indebtedness to my colleagues, Dr. G. E. Williamson and Dr. G. W. N. Joseph, for their valuable help.

Liverpool

**LITERARY INTELLIGENCE.**—Messrs. Baillière, Tindall, and Cox announce for publication the following: "Acromegaly; a Personal Experience," by Leonard Mark, M.D., which will contain portraits and anthropometric data showing full course of the disease in a typical case; "The Treatment, Prevention, and Cure of Tuberculosis and Lupus with Allyl Sulphide," by W. C. Minchin, M.D.; and a new edition of Sir William Whitla's "Dictionary of Treatment."

## Clinical Notes : MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### A FATAL CASE OF PROLONGED TOXIC COMA LASTING NINE DAYS.

BY I. C. MACLEAN, M.D. LOND.

THE patient, an unmarried woman, aged 41, who had been in the habit of taking veronal in from 7 to 10-grain cachets from a medical man's prescription for the last four years, inadvertently swallowed 90 grains one day at about 10 A.M. She was not seen by me till 3.30 P.M., when I found her in a state of profound coma; pulse 80; respiration 22 and stertorous; slight corneal reflex and knee-jerks were present. I washed out her stomach, which was found empty, and gave her 4 ounces of strong coffee with 2 ounces of brandy, also strychnine hypodermically. All reflexes had disappeared next day and she remained comatose, only recovering partial consciousness in the last 36 hours, when she made feeble attempts to swallow, recovered the use of her facial muscles, and moaned faintly in response to questions. She died with symptoms of acute broncho-pneumonia and acute hæmorrhagic nephritis on the ninth day. I bled her on two occasions,  $1\frac{1}{2}$  pints the first night, infusing 2 pints of saline solution intravenously,  $1\frac{1}{2}$  pints the second evening with 3 pints of saline solution intravenously, and I gave a third infusion of 2 pints of saline solution on the fifth day. Six-hourly feeds of 8 to 10 ounces were given with the œsophageal tube, the stomach being washed between each feed, which, consisting chiefly of a diluted mixture of milk, Valentine's meat juice, and brandy, was usually absorbed. Saline solution per rectum was occasionally given also. Great care was exercised with regard to oral cleanliness and I had the help of two excellent and attentive nurses; in spite of this, however, towards the end the upper air passages became very foul. Various stimulants were used at intervals—brandy, strychnine, pituitary extract, and digalen—while oxygen was administered freely. The temperature, which was subnormal for the first two days, gradually rose, being highest on the seventh day ( $105.6^{\circ}$  F.). The average urine drawn off for the first six days was 24 ounces in the 24 hours; on the last three days only 9, 6, and 3 ounces respectively. There were no convulsions. Towards the end fatty, hæmorrhagic, and granular casts were abundant, but no hæmatoporphyrin was detected. The infusion of saline solution was always followed by marked improvement of the pulse, respiration, and general condition, and up to the fourth or fifth day I had serious hopes of saving the patient.

Knightsbridge, S.W.

### NOTE OF A CASE IN WHICH ONSET OF DIABETIC COMA SIMULATED APPENDICITIS.

BY J. S. B. STOPFORD, M.B., CH.B. VICT.,  
SENIOR HOUSE SURGEON, ROCHDALE INFIRMARY.

AFTER reading an annotation in THE LANCET of Feb. 10th (p. 378) on Abdominal Pain as a Premonitory Sign of Diabetic Coma I thought a few notes on the following case might be of interest.

A boy, 12 years of age, was admitted to the Rochdale Infirmary at about 11.30 A.M. on Dec. 8th, 1911, having been sent in as a case of acute appendicitis probably requiring immediate operation. He had been suddenly taken ill during the previous night with pain in the lower abdomen which was so severe that he was compelled to flex both thighs. He suffered from flatulence and vomited once a little thick brown material which gave no relief. He passed flatus freely, and about three hours after the onset the bowels were moved and the motion was normal. The pain became a little easier after this, but he continued to have short attacks of very acute pain, chiefly in the right iliac region. The mother stated that up to 18 days ago the boy had never had a day's illness in his life, but about this time he began to

suffer from nocturnal incontinence of urine and complained of passing a very large amount of water.

On admission the patient looked acutely ill and appeared very drowsy. His face was "pinched" and quite "abdominal" in character. The whole body seemed wasted and the skin was noticeably dry and thin, and could be easily raised from the subcutaneous tissues. He complained of thirst and a nasty taste in the mouth, the tongue being dry and slightly furred. The pulse-rate was 120 per minute, weak, and of low tension; the respirations were 28; and the temperature was 97.4° F. The abdomen moved freely with each respiration, and there was no distension. The whole abdomen was tender on palpation, and this was most marked in the right iliac region, but no swelling could be felt. There was no tenderness in the loin, and nothing was found on examining per rectum. Within an hour of the time of admission the patient became more drowsy and the respirations became quite "sighing" in character. The drowsiness, the respirations, and the history given by the mother suggested the possibility of diabetes, and on obtaining a specimen of the urine shortly afterwards the specific gravity was found to be 1030, and sugar and diacetic acid were present. The boy was immediately put on large doses of sodium bicarbonate, both by the mouth and rectum, but in spite of treatment he sank into typical diabetic coma next morning and died 20 hours later. During the last 24 hours he had passed 80 ounces of pale urine containing 1400 grains of sugar.

At the post-mortem examination the appendix was found to be quite normal, and there were no macroscopic changes in the abdomen except some fatty infiltration of the liver and kidneys. Unfortunately permission was not granted to examine the brain, and through a mistake no microscopic sections were cut of the pancreas, &c.

This case illustrates extremely well how abdominal pain may be a premonitory symptom of diabetic coma and how necessary it is to make a systematic examination of the urine in all cases.

I am indebted to Dr. H. Harris, honorary surgeon to the infirmary, for permission to communicate these notes.

Rochdale.

#### NOTE ON A CASE OF FRACTURE OF THE LARYNX.

BY JAMES ANDREW, M.D. GLASG., D.P.H. CAMB.

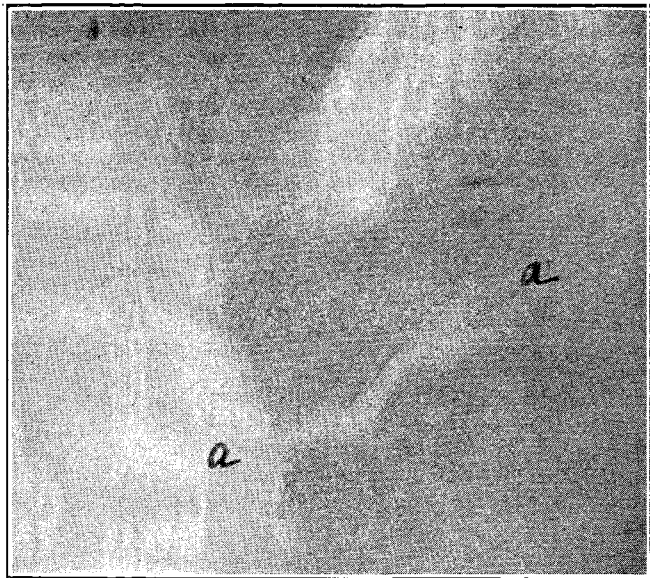
FRACTURES of the larynx are fortunately extremely rare, and are usually the result of very severe violence caused by crushing or pressure directly over the cartilages. They are usually followed by very serious results, due, no doubt, to the extensive damage, not only to the cartilages, but also to the mucous membrane of the larynx. The following case is of interest, both on account of its exceptional causation and also because of its complete and rapid recovery.

On Oct. 9th, 1911, an engine driver, aged 43 years, called at my surgery complaining of pain in the throat and difficulty in swallowing. He gave the following history. On Oct. 6th he was following his usual occupation. While endeavouring to open the throttle of the engine he was seized by a violent attack of sneezing. He turned his head to one side, away from the fire-box, and immediately afterwards felt something "crack in his throat," and he could not sneeze owing to "cramp in the muscles of the throat." During the remainder of the day his throat was very painful, and he had difficulty in swallowing, but he was able to finish his day's work. On the 8th the pain was very severe, and he had great difficulty in swallowing. He complained also of salivation.

When seen by me on Oct. 9th there was no evidence of external injury. The neck appeared slightly swollen. The voice was husky, and swallowing was difficult and painful. Salivation was profuse. On lightly grasping the larynx between the finger and thumb and gently moving it from side to side, distinct crepitus was felt in the region of the thyroid cartilage, and I was of opinion that it was located in the right thyroid cartilage, though it was extremely difficult to define its origin exactly.

Dr. J. Walker Downie kindly examined the patient at the Western Infirmary, Glasgow, on Oct. 13th, and reported that there was crepitation on both sides of the pomum, chiefly at the lower border of the thyroid and upper border of the cricoid cartilages. He was of opinion that there was

fracture of the cricoid cartilage. Two skiagrams were prepared, and from them it was seen that there was distinct fracture of the cricoid cartilage. There was also a line running obliquely across the thyroid cartilage near its lower border, which would seem to indicate fracture of that cartilage also (see figure).



Reproduction of skiagram of thyroid reg on. a-a indicates line of fracture.

The treatment consisted in wearing for 21 days a poro-plastic splint moulded to the neck. During that time the pain in the throat completely disappeared, and the difficulty in swallowing and salivation gradually passed away.

The case is of interest chiefly on account of its causation. The muscles of the arms and chest were fixed in the man's endeavour to open the throttle of the engine, and in turning the head to one side he also fixed the muscles of the neck. The attack of sneezing brought the larynx into sudden contact with his collar, so that he fractured his larynx over the comparatively sharp edge of the collar.

I am indebted to Dr. Walker Downie and to Dr. W. F. Somerville, of the Western Infirmary, Glasgow, for report and skiagram of the case.

Coatbridge.

## Medical Societies.

### ROYAL SOCIETY OF MEDICINE.

#### LARYNGOLOGICAL SECTION.

##### *Exhibition of Cases and Specimens.*

A MEETING of this section was held on March 1st, Dr. STCLAIR THOMSON, the President, being in the chair.

The PRESIDENT exhibited: 1. A Larynx showing Epithelioma removed post mortem from a man aged 23. The case had been shown before the section a year ago, and attention was drawn to the early age at which the disease had appeared. 2. A case of Combined Tuberculosis and Syphilis of the Larynx in a woman. The patient had no physical signs in the chest, but the Wassermann test was positive, and tubercle bacilli had been found in her sputum. The larynx showed deposits of tubercle and syphilis each in typical form. 3. Double Abductor Paralysis in a man, aged 42, in whom a skiagram indicated a mediastinal tumour.

Dr. H. J. DAVIS showed a case of Double Abductor Paralysis in which he proposed to perform thyrotomy with the object of removing completely the left arytenoid and vocal cord. (A conflict of opinion arose in the discussion on the question of the advantages which such an operation would have over tracheotomy, the majority of the speakers expressing themselves as favouring the latter.) Dr. Davis also exhibited the following series of cases and specimens: 1. A Grain of Indian Corn which had been retained in the nose for