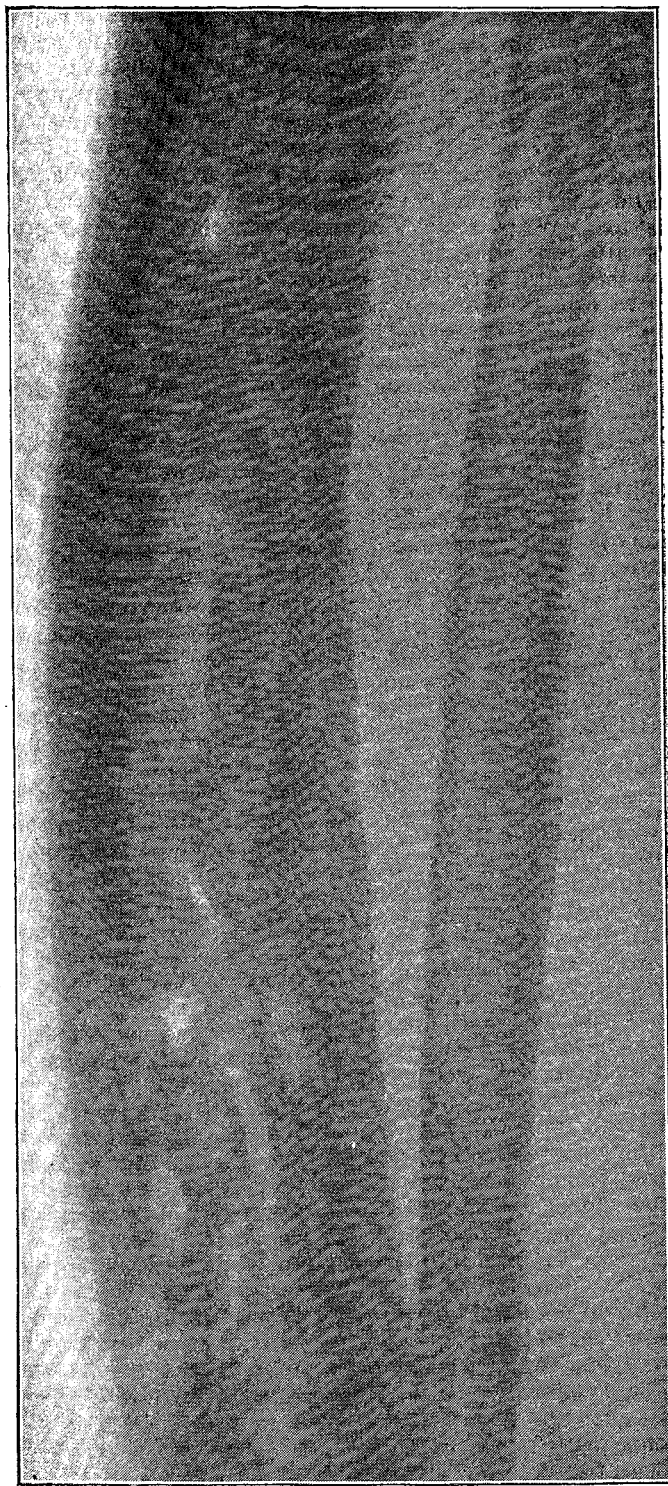


to go out in a chair and suffers no pain. She does not put any weight on the legs for fear the tibiae might give way.

The following measurements are worthy of note. Left leg: from the anterior superior spine to the internal malleolus, $30\frac{1}{2}$ inches; from the anterior superior spine to the ischial tuberosity, 11 inches; circumference at the knee, 14 inches; at the calf, $11\frac{1}{4}$ inches. Right leg: from the



The osteo-malacious left tibia. The skiagram has been taken from the inner aspect of the limb, as is obvious from the relation of the bones to each other.

anterior superior spine to the internal malleolus, $31\frac{1}{2}$ inches; from the anterior superior spine to the ischial tuberosity, 10 inches; circumference at the knee, $13\frac{1}{4}$ inches; at the calf, $10\frac{3}{4}$ inches. Interspinous, 14 inches.

The special points in the case are (1) the duration of the disease (14 years) with so little discomfort; (2) the small number of bones affected—viz., the left side of the pelvis, both femurs, and the tibiae; and (3) the age of the patient (65 years) and the fact that callus was thrown out and union occurred in nine weeks.

My thanks are due to Mr. Stainer of this town who kindly took the skiagrams.

Folkestone.

A CASE OF COBRA-POISONING TREATED WITH CALMETTE'S ANTIVENINE.

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AND

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THE following record of a case of cobra-poisoning is of interest inasmuch as the identity of the snake was without doubt. All the symptoms were carefully noted from the beginning, and the only treatment employed was the injection of Calmette's antivenine.

On Oct. 6th, 1900, one of us was assisting in the extraction of poison from a full-sized cobra. Before proceeding to compress the glands in order to expel the poison the operator was clearing away some mucous secretion from the neighbourhood of the mouth. This was being done with a small piece of cotton-wool held in the naked hand. The snake at the time was firmly held just behind the head in the hand of an experienced native snake-man. By some means or other the snake buried its right fang through the cotton-wool into the point of the operator's right thumb. The thumb was withdrawn practically instantaneously, but, as the after-history will show, not before a considerable quantum of poison had been injected. It is worthy of note that immediately afterwards four large drops of venom were pressed from the left gland, while none was obtained from the gland of the opposite side. As the wound was at first considered to be a trifling one, and as the snake was not believed to have injected any poison, no local treatment was employed except sucking the wound. This was done thoroughly and free bleeding occurred.

On the advice of Mr. Haffkine, at from 20 minutes to half-an-hour after the bite 18 cubic centimetres of Calmette's antivenomous serum were injected, half into each flank. This serum, which was from four to five years old and had been in Bombay as the property of the Bombay Natural History Society for about four years, was the only serum available at the time. It may be stated here that some experiments on rats, made by us some few days previously to the accident here recorded, had shown this serum to have deteriorated to such an extent that it only retained about one-fourth of the neutralising power which Calmette's standardisation had ascribed to it. These experiments, along with others which are at present in progress, will form the subject matter of another communication. About two and a half hours after this dose of serum had been administered some general symptoms of cobra-poisoning referable to the nervous system set in. In chronological order these were as follows. There were first disinclination to work and lethargy, and then followed nausea and vomiting, accompanied by slight paresis of the legs. While these symptoms were still present some fresh serum, dated May 8th, 1900, was procured. Ten cubic centimetres of this were at once injected into the left flank; that is, about three and a half hours after the bite. Nausea and weakness of the legs continued for some time. From two to three hours, however, after the second dose of serum all symptoms had passed away.

Locally at the moment of injection there was much pain at the site of the wound. This pain increased and was soon followed by considerable swelling of the whole of the thumb, which in a few hours became exceedingly tense and very painful. There was much extravasation of blood into the tissues around the puncture, while a bloody exudation oozed out from the wound for 24 hours at least after its infliction. During this time also there were pain and tenderness along the tract of the median nerve into the axilla; tenderness was especially well marked at the bend of the elbow and in the axilla. There was also some anaesthesia of the anterior surfaces of the three and a half outer fingers; the superficial finger distribution of the median nerve. There was neither enlargement nor tenderness of any of the lymphatic glands. It soon became apparent that a slough was going to form round the site of inoculation. This slough became demarcated in a few days. It was of the size of a threepenny-piece. It came away in about three weeks' time and left a hole a quarter of an inch deep. This wound has

gradually granulated up and now (six weeks after the accident) it is nearly healed.

The case is an interesting one and worthy of record as one in which the identity of the snake was beyond doubt; and further, the case was under observation from the first, and symptoms, both local and general, were carefully noted as they appeared. It also points to the efficacy of Calmette's serum when fresh, even when general symptoms have appeared and in spite practically of no local treatment, not even a ligature.

The following conclusions can be drawn:—1. That great care is required in handling poisonous snakes. 2. That the puncture of a fang of a passive snake is not to be neglected, as a considerable amount of poison may be forced out from the gland through reflex action, initiated by simple pressure on the fang. 3. That thorough sucking of the wound is of little avail as a local treatment; the poison lies deep, is viscid, and the bleeding in all probability takes place from superficial vessels. 4. That it is advisable to keep a stock of *fresh* antivenomous serum in dispensaries in India, and the use of this serum is not to be neglected even after general symptoms have set in.

Bombay.

MEMBRANOUS OESOPHAGITIS;

EXPULSION OF A COMPLETE CAST OF THE OESOPHAGUS.

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(With Coloured Illustration.)

THE following most remarkable case occurred in a man aged 46 years, a labourer, who was admitted into the Mill-road Infirmary, Liverpool, on April 10th, 1900, complaining of pain beneath his sternum and difficulty in swallowing. For several years he had been a heavy drinker and had always drunk neat whisky, which invariably caused a burning sensation in his throat and down the line of his oesophagus. During the last six months he had had increasing difficulty in swallowing solids, and on admission to the infirmary he could only swallow fluids. When asked why he continued to drink when it caused him pain he replied that it gave him a "feeling of satisfaction," that the neat whisky did him good. On April 16th after a violent fit of coughing he vomited a complete cast of his oesophagus eight and a half inches long. It was very foul-smelling and of a dirty greenish appearance. The nurse stated that he nearly choked in endeavouring to expel it, but that he seized it with both hands and dragged it out.

Etiology.—Inflammation of the oesophagus is caused by the immediate contact of irritants swallowed, especially hot liquids, corrosive fluids, and by the continued action of irritating substances repeatedly swallowed, such as strong alcoholic drinks (Fitz). In this case the patient had practised a foolish custom (only too prevalent in Liverpool) of drinking neat brandy and whisky and at times rum, more especially in the early morning.

Morbid anatomy.—Follicular, fibrinous, and diphtheritic inflammations of the surface of the oesophagus occur, whilst still another variety is the phlegmonous inflammation of the connective tissue of the wall. I am inclined to think that my case is one of the latter variety.

The number of cases on record of this rare disease is very few and I have only been able to find five others, and no previous case in this country has, so far as I know, been described.

The condition known as exfoliative or desquamative inflammation of the oesophagus, or by the term most recently applied, "oesophagitis dissecans superficialis," was first described by Birch-Hirschfeld in Ziemssen, vol. viii., page 140. In this remarkable case a woman vomited a complete cast of her oesophagus, which on examination was found to consist of the epithelial layer infiltrated with round cells. In Reichmann's case this epidermoid layer was free from leucocytes, whilst Fitz records a similar condition which was exfoliated from the gullet of an infant who had taken a dose of chloral. Rosenberg reports a case where the mucous membrane was both streaked with blood and infiltrated with leucocytes. Slavunos reports a fifth case in which the epidermic tube was inverted,

Phlegmonous oesophagitis is a suppurative inflammation of the submucous layer. A circumscribed abscess in the submucous tissue results or the pus completely encircling the oesophagus may follow its length even to the stomach (Fitz). After separation of the slough healing takes place, scars result, and if the corrosion has extended to the muscular coat, extreme, or as in the present case complete, stenosis follows.

Symptoms.—On admission the patient was a thin spare man, having the appearance of recent emaciation. His weight was exactly 100 lb. Six months previously he first noticed some difficulty in swallowing solids. Lately he had noticed that anything of a solid nature seemed to stick at the lower part of his oesophagus, although he never had any regurgitation of food. Cold liquids produced pain during transit and for this reason he had taken warm drinks. On April 1st he vomited a large quantity of blood-stained fluid. On admission he had tenderness on pressure along the line of his gullet and pain of a diffuse nature, especially on attempting to swallow. Stricture or some malignant disease was suspected, but a soft rubber stomach-tube passed quite easily into the stomach without pain or discomfort. He preferred the upright position and always sat up in bed with his head fixed and rigid. A diagnosis of spasm of the oesophagus with alcoholic gastritis was made and he was fed on carefully warmed nutritive fluids.

On April 16th, or six days after admission, he had a violent fit of coughing and after some difficulty he vomited up a complete cast of his gullet, the patient himself forcibly pulling it out of his mouth.

The cast weighed two and a quarter ounces, was of a dirty-greenish appearance, and was streaked with a purulent coating of blood-stained pus. The smell was most offensive and some disinfectant had to be added at once. It had all the appearance of a complete oesophagus, but on examination the muscular layer was not present. The patient coughed and vomited up a good deal of purulent matter and seemed much relieved, but the pain on attempting to drink any fluid was so intense that he was afraid afterwards to try. He was fed on nutrient enemata for two or three weeks, when he again was able to swallow some fluids without much pain, but was only able to get down a very small quantity at once. He was losing flesh rapidly and it was quite evident that he had considerable stenosis of his gullet and that it soon would be complete. Accordingly it was thought desirable that if the operation of gastrostomy was to be performed it had better be done whilst he had some strength to bear it. He readily consented.

Operation.—Under ether on May 12th the usual incision was made for gastrostomy by Albert's method. The stomach was found to be retracted and collapsed, and it was with some difficulty that I was able to draw out a long conical diverticulum of the anterior wall. The parietal peritoneum and the posterior layer of the sheath of the rectus were then sutured around and through the walls of the stomach down to the mucous coat, and the suture was pulled moderately tight. A second small incision was made above and on a level with the costal cartilages and the skin was separated from the subjacent parts. The diverticulum of the stomach was drawn up under the skin to the second incision, and its apex was fixed with a few sutures after a small opening had been made into the stomach and a rubber tube inserted. The first incision was then completely closed and covered with gauze and sealed with collodion. The patient was fed at once with one pint of milk, beef juice, and some brandy through the tube, as he was rather collapsed.

The operation was quite successful, as the incision healed by first intention, and the sutures were removed on the eighth day. He recovered nicely for a time and was able to feed himself regularly, but three weeks after the operation he commenced to regurgitate large quantities of gastric juice followed by the food in a form which except for the curdling of milk did not appear to be altered.

After-progress.—It was evident that despite washing out his stomach regularly with an antiseptic and the most careful feeding he was not able to digest food, and it occurred to me that perhaps the mucous membrane of his stomach and intestine might be similarly affected. He was in addition fed per rectum as he could not swallow at all, there being complete stenosis of the gullet. He accordingly slowly went down hill and died from asthenia six weeks after the operation. His weight at death was 87 lb.

Necropsy.—A post-mortem examination was made 24 hours after death. The body was greatly emaciated. The digestive