sufficient time had hardly elapsed to judge of the results. Mr. Fagge speaks of the advantage of this method of operation in strangulated femoral hernia, and he suggests that Gimbernat's ligament may be divided outside the sac through the inguinal incision in the external oblique. In division of the constricting band causing strangulation outside the sac, either in inguinal or femoral hernia, it is necessary to be careful that while one's attention is given to this division, a very small piece of strangulated intestine—perhaps only a Richter's hernia—does not slip back unobserved as soon as the constriction is divided, and therefore before we have time to make the examination of the groove of constriction for perforation, which is so important to do.

REFERENCES.

[1] *Centralbl. f. Chirurgie*, 1898, xxv, p. 548. [2] *Trans. Roy. Soc. Med.*, April, 1911.

A CASE OF ADDER BITE.

BY

ERNEST F. CLOWES, M.R.C.S., L.R.C.P.

WOTTON-UNDER-EDGE.

CASES of adder bite are of sufficient interest to warrant description, because of their rarity and the very alarming symptoms produced.

F. B., aged 28, a man enjoying excellent health and of good physique, was walking through some woods in search of grass snakes on June 16th, 1911. He was quite unaware of the fact that the ordinary viper (*Vipera berus*) was to be found in every county of England, Scotland, and Wales. In a shady path he suddenly came across what he thought was a dark coloured grass snake; he picked it up, handled it, and noticed a V-shaped mark on its head, also that it was of a dirty chocolate-brown colour. After examining it for two or three minutes, he decided to take it home, and in order to get a box out of his pocket, he had to change the snake from his right hand to his left. Whilst doing this, the reptile suddenly bit him over the first phalanx of the left thumb. He dropped the snake, and says he felt a darting pain shoot up the arm to his shoulder. After this he cannot give a very clear account of his movements, but remembers being found by some woodmen, who gave him whisky and advised him to suck the wound. He was removed to his home, and I saw him about forty minutes after the accident.

I found him lying down, very pale and collapsed, and quite pulseless. His pupils were dilated, the left more than the right; the sclerotics were pearly white and glistening. The breathing was shallow and jerky; he was rather confused mentally, and complained of thirst and a stifling feeling in the throat. The left thumb and hand was swollen, but the swelling was limited at the wrist.

I immediately applied a tight ligature about 3 in. above the wrist, and soaked the whole hand in a strong solution of Condy's fluid. The thumb had two small punctured wounds about ½ in. apart on the dorsal aspect of the first phalanx; the wounds looked like small pin pricks. I made a deep crucial incision over the wounds, and allowed it to bleed freely, the wound was then filled up with crystals of potassium permanganate, and dressed with double cyanide gauze. A mixture of digitalis, compound spirit of ether, and ammonium carbonate was given, and a hypodermic of strychnine $\frac{1}{30}$ grain. Hot water bottles were applied to the feet, legs, and abdomen.

He rallied somewhat after this treatment. The pulse was 140; respirations 26, shallow and jerky; temperature 96.6° F. He complained of pains shooting like "electric shocks" down his spine, legs, and arms. His whole body was hyperaesthetic; so much so that he did not like the bed-clothes to touch him. He could only move his legs and arms feebly, the knee-jerks were absent in both legs, but slight plantar reflexes were present. He complained of difficulty in swallowing, and had a constant desire to pass water, although he could not do so. The corneal reflexes were decidedly sluggish. The pupils reacted to light and accommodations, but the left was more dilated than the right. He said that he could not see properly, everything looked misty, and he could not tell the difference between a red and yellow rose when they were shown to him.

The swelling of the hand was now much increased, and there was great pain in the arm. I gave him a hot rectal saline injection and decided to infuse normal saline solution into the axillae. As I thought some of the pain in the arm was due to the tightness of the ligature round the wrist, I loosened it slightly, but almost immediately the patient cried out with pain, which he said shot down his spine and legs. The pain was followed by vomiting and he was utterly collapsed. Another hot rectal saline and more of the ether mixture and a hypodermic of strychnine was administered, and again the patient rallied.

As the patient's condition did not improve, local injections of sterile 5 per cent. permanganate solution at the edge of the oedematous area were made upon the suggestion of Professor Walker Hall; three separate injections were made at various sites round the limb; normal horse serum was also proposed to be given in 10 c.cm. doses three times daily. After the first dose of normal serum I waited for two hours, and then loosened the ligature again. There was some pain in the dorsal spine, and also slight pains down the legs, but no nausea or vomiting or collapse followed. At 8.40 p.m. the pulse was 110. Respirations 20, temperature 100.6° F. The patient now passed some urine (6 oz.); it was dark and smoky coloured; reaction acid; specific gravity 1025; albumen and blood present. Hot rectal salines were administered every three hours, and the ether mixture every two hours; nourishment in the shape of soups, milk, and egg-flip was given freely. An endeavour was made to procure antivenene, but it could not be obtained in time for administration.

At 11.30 p.m. he was fairly comfortable, but complained of some pain in the forearm and shoulder. His pulse was 100, respirations 20, temperature 101.8° F. I loosened the ligature again, and no bad symptoms supervened. I left him for the night with instructions for the rectal salines and the ether mixture to be continued.

I saw him early in the morning of June 17th. He had slept a little, but had suffered some pain in the left arm and shoulder. He had passed about 10 oz. of blood-stained urine during the night. The whole arm from the hand to the shoulder was now intensely oedematous, and the oedema extended slightly over the chest, neck, and back. The hand and arm were bluish red in colour, and the lymphatics stood out as bright red lines. He complained of headache, and he could not yet distinguish colours. The left pupil had nearly regained its normal size. He still had much loss of power in the legs, and the knee-jerks were absent, but the plantar reflexes were stronger. Pulse 90; respirations 18 and normal in character; temperature 100° F. From then onwards the patient made an uninterrupted recovery. Knee-jerks appeared on June 20th. The urine was free from blood and albumen on June 21st, and all oedema of the arm had subsided by June 28th. For about a month the patient had a good deal of stiffness in the hand and fingers, but otherwise was quite well.

The case gains in interest from the fact that the patient was of more than average intelligence, and did not manifest any hysterical tendencies. Except during the period of collapse, he was able to give a succinct account of his symptoms. The transference of the venom appeared to be limited to the superficial lymphatics, and to occasion a considerable amount of reaction along their path. When the ligature was loosened, the resultant pain followed too rapidly to be due to any circulation of the poison; the suggestion lay near to hand to regard the condition as associated with a primary inhibition of nervous impulse and the general systemic pains as referred in character. The normal horse serum appeared to play a part in reducing the effect of subsequent removal of the ligature and the admission of small doses of the poisoned oedema fluid distal to the ligature into the general system, for even after the first dose there was less pain when the ligature was slackened.

A CASE OF RUPTURED SPLEEN: SPLENECTOMY: RECOVERY.

BY HENRY JOY CLARKE, JUN., M.A., M.B. B.C.CANTAB., M.R.C.S.ENG., L.R.C.P.LOND.,

HONORARY SURGEON TO THE DONCASTER ROYAL INFIRMARY.

THE following case upon which I operated presents several points of interest. The patient, a farmer, aged 52, was admitted into Doncaster Royal Infirmary on Thursday, July 20th, 1911, at 1 p.m.

History.

On July 18th, at 8 a.m., he fell from a hayrick about 12 ft. high on to his left side across a stone wall. He continued at his work until 9 a.m., and then went home to bed suffering a good deal of pain. In the afternoon he felt better, and got up for a little. About 10.30 p.m. the pain became worse; it was situated in the pit of his stomach and round the left side. On the following morning he sent for Dr. Chambers, but by this time the pain had become easier. On July 20th, Dr. Chambers, thinking that the man was suffering from internal haemorrhage, and that his spleen might be ruptured, sent him into the infirmary. The patient insisted on walking downstairs to the cab, and on arrival at the infirmary stepped out of the cab into the ambulance chair.

Condition on Admisson.

The patient was a strong, well-made, burly man. The pulse was 132, and the temperature 99°. He looked pallid, but was not at all collapsed. He complained of pain in the epigastrium and left hypochondrium, and was tender over that area. The abdomen moved fairly well on respiration, but there was some abdominal distension. There was an indefinite area of dullness in the left flank.

A turpentine enema was ordered, and hot fomentations applied to the abdomen. At 4 p.m., when I saw him again, his