

ounces of lard. The wound was dressed with this ointment every morning for seven days. The application gave rise to but little local mischief, except that the temperature was slightly raised, and that a slight oozing of matter took place from a point removed a slight distance from the wound. From the time of the first dressing, the animal lost appetite, but throughout was neither purged nor vomited. He refused food, became gradually thin and exhausted, and died as from inanition, without any other remarkable symptoms.

The dog was sent to me directly after death: I examined him seventy-two hours after the fatal result. The cadaveric rigidity was well marked. In this as in the preceding cases, intense congestion of the internal organs was the most striking general appearance of a pathological kind. The blood was fluid, and such few clots as were met with were loose and dark in colour. The heart was filled with blood on both sides: the aorta was full of blood. The lungs were inflated, of a pink colour, and much less free from congestion than the other organs. There was no indication whatever of pulmonary inflammation. The bronchial membrane was healthy. The liver was congested; the spleen natural. The stomach contained ten drachms of a very dark, thick, bloody-looking mucus. The inner surface of the stomach had the same red appearance seen in the before-named cases, mapped out much in the same manner, and situated in the same locality. There was no ulceration. The intestines held no solid matter, but were thinly coated with a bloody mucus, like that in the stomach. The whole of the intestinal canal was injected, and the colon and rectum presented bloody spots as from a rupture of the minute vessels, but there was no actual ulcerated spot. The kidneys were of a purple colour, from congestion. The bladder was full of urine.

The results of the analysis in this case were as follows:—The brain contained no trace of the poison. The lungs gave marked evidence of its presence. The heart gave very abundant proof of the presence of the poison. The blood yielded only traces (seven drachms was the amount acted on). The contents of the stomach (ten drachms) yielded abundant evidence. The stomach itself, after being washed, yielded distinct evidence. The liver and spleen yielded a much greater amount than any other structure. The kidneys yielded distinct evidence. The urine gave distinct evidence. The rectum gave abundant evidence. The contents of the intestines gave distinct evidence. The intestines themselves gave distinct evidence. The soft parts of the back of the neck, at the point where the antimonial was applied during life, yielded the barest trace of antimony.

In this experiment we see that antimony, received slowly into the system, may cause death—may be present in almost every organ, and yet may not excite, during the lifetime of the animal, any of the symptoms of vomiting, purging, and spasms, which are usually set down as the specific signs of antimonial poisoning.

The liver, in this instance, was again the chief depôt of the poison.

Hinde-street, Manchester-square, May, 1856.

#### ON THE

### ADMINISTRATION OF ERGOT OF RYE.

By WILLIAM ROSE, Esq., F.R.C.S.

ON January 28th last I was called in by a practitioner in a neighbouring town to a woman in labour with twins, one of which had been born thirty-six hours before. From that time there had been a total absence of uterine pain. She was at her full time, in good health, and had borne several children before. There was no urgent symptom whatever.

On examination, I found the os uteri and soft parts in a perfectly lax state. The child was alive; the head presented, but had made no descent from its situation in utero; there was ample capacity of the pelvis, and no impediment to its birth, as far as could be ascertained, beyond simple want of uterine action to expel it. The question appeared to be, whether to turn the child at once after so considerable a lapse of time, or first to try the effect of ergot, the conditions being so favourable to its action. The latter was determined upon, and half a drachm of the fresh powder given in tepid water. At the expiration of a quarter of an hour, active expulsive action of the uterus was produced, and, after three pains, the child was born in a vigorous, healthy state. The after progress of the case was completely satisfactory.

High Wycombe, Bucks, April, 1856.

### ON THE DETECTION OF STRYCHNINE.

By F. CRACE CALVERT, Esq., F.C.S.,

PROFESSOR OF CHEMISTRY TO THE ROYAL INSTITUTION, MANCHESTER, AND LATE LECTURER AT THE ROYAL MEDICAL SCHOOL, MANCHESTER.

HAVING noticed a great deal of discussion in various newspapers as to the length of time after death in which strychnine can be discovered in the stomach, I am induced to publish the following fact, which will prove that strychnine will resist decomposition in the stomach for the space of nearly one month after death.

In 1849, several dogs of the Cheshire pack of hounds were wilfully poisoned, and one of them was brought to my laboratory for examination. From the description which was given to me of the peculiar symptoms which accompanied the rapid death of these dogs, and also from the fact that I could observe no peculiar pathological appearance in the stomach and intestines, I was led to believe that they had died from the effects of strychnine. I therefore treated the contents of the stomach as follows:—It was put to digest for twenty-four hours, with pure alcohol of specific gravity 0.840, slightly acidulated with pure hydrochloric acid. The whole was then thrown on a filter, and the filtrate concentrated and neutralized. The precipitate which was thus produced was dried and exhausted with alcohol of specific gravity 0.840. This alcoholic solution was evaporated to dryness in a water bath, and the residue treated with very dilute hydrochloric acid. This was again neutralized, and the deposit which fell re-dissolved in dilute hydrochloric acid. This solution was then evaporated to dryness, and the residue treated with the various tests characterizing strychnine, when its presence was clearly indicated.

As the master of the hounds attached great importance to the case, he requested me to obtain a sufficient amount of poison from the stomachs of some of the other dead dogs, that I might not only be convinced of the presence of the poison, but might also bring some of the extracted strychnine into court. To enable me to do so several dogs were disinterred and forwarded to my laboratory, and the space of time which had elapsed from the date of death to the time when I submitted them to analysis was at least three weeks, and still I perfectly succeeded in extracting strychnine from the stomach of the dogs, and exhibiting it in the state of crystallized hydrochlorate.

Amongst other persons who witnessed this fact was J. A. Ransome, Esq., Surgeon to the Royal Infirmary, Manchester. Manchester, May, 1856.

## A Mirror

OF THE PRACTICE OF

## MEDICINE AND SURGERY

IN THE

HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

### UNIVERSITY COLLEGE HOSPITAL.

EXTRAVASATION OF BLOOD INTO THE CALF OF THE LEG; HÆMORRHAGIC DIATHESIS; OPENING OF A CAVITY FILLED WITH COAGULA, EXTENDING FROM THE POPLITEAL SPACE ABOVE THE KNEE DOWN TO THE HEEL; ACTUAL CAUTERY TO ARREST THE BLEEDING, AND Tourniquet TO THE FEMORAL ARTERY; EXTENSION OF THE CAVITY UP THE THIGH, WITH œDEMA AND COMMENCING GANGRENE; AMPUTATION OF THE THIGH; FATAL TERMINATION; DISSECTION OF THE LIMB.

(Under the care of Mr. ERICHSEN.)

THERE is a condition which now and then presents itself to the notice of the surgeon,—though fortunately a rare one,—known as the hæmorrhagic diathesis, from the great tendency, we may say, to uncontrollable bleeding from the slightest and most trivial wounds and bruises, ending not unfrequently in death, especially in children. This peculiar diathesis has been

pronounced to be acquired at birth, the result of hereditary transmission, or the effect of a scorbutic condition. At any rate the fact is now undisputed that it depends upon a want of a proper quantity of fibrine in the blood, which influences to a certain extent the contractile power of the capillaries, whatever the cause may be that produces it. The character of the bleeding is that of a general oozing from the capillaries of the part, and that it does not flow *per saltum*; the trickling of the oozing stream being continuous and incessant. This condition, when occurring in such cases as the present, demands the most serious attention of the surgeon, and involves the consideration of one of the most important surgical questions, namely, the treatment of wounded arteries and diffuse aneurism. We consider ourselves extremely fortunate in being able to give, in the "Mirror," the following interesting case, which we might almost call unique, and for which we are indebted to Mr. D. B. Reid, the late house-surgeon to the hospital. Our excuse for its great length must be the extreme value of its details, together with the remarkably obstinate and fatal persistence of the bleeding, which suggested the remarks made by Mr. Erichsen, given at its conclusion.

John A.—, aged thirty-four; admitted on the 6th of February, 1856. He is a pale, weak, emaciated and anæmic subject, by occupation an architect's assistant. From childhood he was delicate, and suffered from pains in the joints. Last year he had what he called inflammation of the bowels, which considerably reduced his strength; and on two occasions he experienced great loss of blood from slight wounds, once nearly bleeding to death from a small cut in the lip. Three years ago, when in Dublin, he sprained his leg in rapidly crossing a street to avoid a carriage. This was followed by a swelling in the calf of his left leg, with an aching, gnawing pain; this confined him to bed a fortnight, but he was quite well in three weeks. No ecchymosis was present, nor any pulsation in the swelling, on this occasion. No further inconvenience was felt till about two months before entering the hospital, when he experienced aching and gnawing pain and stiffness in the calf in the same spot as before, not increased by extending the knee. These symptoms again disappeared, and he went about as usual. A month before admission the swelling and pain again recurred at the same spot, both aggravated by walking. The swelling, which was confined to the upper part of the calf in the first attacks, now gradually extended upwards to the popliteal space and downwards to the heel, and all round the ankle was ecchymosed. Shortly after this, he came up to London by train, and happening to rise up suddenly, to look out of the window of the railway carriage, he felt something snap in the calf, the leg became much more swollen, and he did not walk again.

He now came under the care of Dr. Madge, who found large patches of psoriasis on various parts of the body, to which he had been subject from early life, and had taken a variety of medicines. His left leg was immensely swollen from the knee to the toes; it was uniform, and much ecchymosed from its middle downwards. This last condition disappeared in a few days, remaining rather persistent around the ankle, when the leg assumed a glistening appearance. Subsequently the swelling subsided, except at the upper and outer part of the calf, which was large and prominent; it fluctuated distinctly, but there were no symptoms of its being an abscess. A fortnight after, the inner side of the leg and shaft of the tibia became very painful, which yielded to evaporating lotions and soothing treatment, and permitted of his getting up for five or six days: The swelling now began to extend, and the pains returned very severely; it was therefore explored, and a grooved probe passed freely to the extent of three or four inches in every direction, and a little blood oozed out, which was not fetid, but sensation in the tumour was lost to the patient. Gallic acid and styptics were administered for the hæmorrhagic tendency, which caused the swelling to diminish and the pain to disappear. The discharge from the puncture was found to be a mixture of pus and blood. Bandaging was then employed from the toes upwards, with benefit for a few days, until arterial hæmorrhage occurred from the opening.

Mr. Erichsen now saw the case, and enlarged the opening to the extent of two inches, and exposed a sac filled with a quantity of coagula and broken up tissues, accompanied with much fœtor. A large poultice was applied to encourage suppuration. In the evening the patient became faint from loss of blood, which had oozed out from the incision. Ice and a tourniquet were applied, which arrested the bleeding, but as it continued more or less he was taken into the hospital.

Feb. 6th.—On admission, the patient was in a state of great

depression from the long-continued loss of blood. A bandage with compress on the wound had been placed round the limb, so as to check the bleeding, but the oozing returned on removing the pressure. Mr. Erichsen decided on enlarging the wound, and then acting according to circumstances. Chloroform having been administered, the former incision was enlarged upwards and downwards, making a wound about eight inches in length. A considerable quantity of clotted blood of very offensive smell was turned out; some of these clots were rather large and hard, and one of them, about the size of two or three walnuts, was quite decolorized and leather-like in appearance. A cavity was now exposed, reaching from the popliteal space above the knee down to the heel, the walls of which were lined with brown, hardened coagula. On opening it out, and relaxing the pressure previously maintained on the femoral artery, the cavity slowly filled with dark venous-looking blood, which welled up from its lower end. No distinct bleeding-point—that is, no especial spot furnishing the blood—could be discerned; but the blood appeared to ooze out from the sides, but chiefly from below. There was no arterial hæmorrhage. It was now a question whether the wound should be enlarged below, so as to expose the lower end of the cavity; but in consequence of the patient being in immediate danger of death from hæmorrhage if the operation was prolonged, this proceeding was not adopted. The walls of the cavity were now touched by the actual cautery at all points where there was oozing, and the lower part was filled with lint soaked in the tincture of the sesquichloride of iron. A compress was placed over the lower end of the chasm, and a strip of water-dressing was put over the wound. The whole was then retained by a bandage from the toes up to just below the knee. After the operation the patient was removed to bed, and the limb elevated on pillows. When he recovered from the effects of the chloroform, he was given thirty drops of laudanum; diet, three pints of cold beef-tea.—Six p.m.: A little blood oozing through the bandage. Another roller was more firmly applied over the dressings. Restless; toes warm, but slightly sensible. Twenty drops of laudanum were administered.—Eight p.m.: Slight oozing of blood again. Carte's tourniquet was applied to the femoral artery. Ten drops of laudanum were given.

7th.—No more bleeding during the night; countenance rather anxious; rested a little during the night; pulse quick, full, and moderately strong; thirst; bowels confined; œdema of thigh from tourniquet; toes warm, but quite insensible. An aperient draught was administered. In the evening he was much more composed, the bowels having acted well in the afternoon. Serous oozing through the bandages. Popliteal space swelling above the bandage. Opiate at night.

8th.—He has passed a better night. Pulse frequent and full; serous oozing through the bandages. Tourniquet removed.

9th.—Not so well, although he expresses himself easier since the removal of the tourniquet. Countenance more disturbed; occasional trembling of upper extremities, and twitching of face. General œdema of thigh gone down; but the swelling in the popliteal space has increased, and the integuments are assuming a dusky-red hue; it is very tender, and pressure on it produces an emphysematous crackling. All the bandages and dressings being removed this afternoon, except a large piece of lint filling up the lower end of the cavity, the integuments were found to have melted away at the outer and lower aspect of the leg, where the external compress had been placed. The muscles and their tendons were here exposed. The whole cavity being very foul and gangrenous, was injected with a solution of chloruret of soda, plugged and treated by compresses as before, the bandage reaching one-third up the thigh. To have eggs, beef-tea, and wine all day and night; and every four hours to have a draught composed of four grains of carbonate of ammonia, one drachm of the tincture, and an ounce and a half of the decoction of cinchona.

10th.—The patient has rallied; countenance improved; no twitchings nor tremulousness; surface warm, but not perspiring. Pulse 152, regular, full, and moderately strong; tongue clean. Mr. Erichsen again examined the limb, and found the cavity in the popliteal space extending further up the back of the thigh, and that the thigh generally was œdematous and slightly discoloured. On consultation, it was agreed to seize this favourable moment for amputation, which was accordingly performed at half past ten a.m.

In consequence of the cavity extending up the back part of the thigh, Mr. Erichsen made a large anterior flap by transfixion, and a small posterior one, by a sweep of the knife, cutting from without inwards. The blood which oozed from the

face of the stump was very thin and watery, and it required thirty-two ligatures to arrest the hæmorrhage. The actual cautery was pushed up a small part of the cavity remaining in the posterior flap. Two sutures were put in, and the stump bandaged up. After recovering from the chloroform, the patient was kept up by repeated doses of brandy and eggs.—Two P.M.: Oozing of blood through the bandages. The stump has been opened up; nothing but general oozing found. The surfaces of the flaps were now smeared over with strong fuming nitric acid, after the exhibition of chloroform. This being found insufficient, the actual cautery was applied to some points repeatedly, still pale watery blood oozed away. A large fold of lint, soaked in cold water, was then placed between the flaps, and the whole was covered with a tight bandage.—Five P.M.: Oozing again commenced. The stump was covered with roughly powdered ice. Pulse intermittent. To take eggs, boiled mutton, and brandy.—Seven P.M.: Further oozing. A tighter bandage was now placed over the end of the stump, and ice was reapplied. Pulse better and regular. Complaining of sickness and vomiting. To take immediately a pill of opium and creosote.—Eleven P.M.: He gradually sank and died.

*Dissection of the limb.*—Shortly after amputation the limb was injected from the popliteal artery. On dissection, a large cavity was found in the calf, extending from above the knee nearly to the heel. Behind the knee the cavity was situated in the subcutaneous cellular tissue; while, lower down, it lay amongst the muscles. Superiorly, the external popliteal nerve lay quite exposed, its surface being dark and tough. The peroneal and posterior tibial arteries and their branches, which were well injected, were quite sound, the former being rather the larger in point of calibre. The walls of this cavity were quite black. No vein nor artery could be found opening into it. The injection sent into the arteries had escaped nowhere. Throughout the whole calf there were many ecchymoses which did not appear to have any connexion with the original cavity, but appeared quite independent. In many of these extravasations the blood appeared to be quite black and coagulated. They were found deep amongst the muscles, in their substance, and in the cellular tissue forming their sheaths and septa. The anterior part of the leg and the foot were sound. No visceral disease was found after death. The lungs and kidneys were quite healthy; but all the other organs quite pale and bloodless.

In his observations upon this case before the pupils, Mr. Erichsen remarked that when he first saw the patient, foetid blood and dark disorganized coagula were oozing from the punctures. The history of the case was obscure and the diagnosis doubtful; but still it appeared to him the line of treatment was clear—to enlarge the openings, turn out the coagula, and search for the bleeding vessels. This was done, but no bleeding orifice could be detected, though the welling up of blood continued. The patient was therefore removed to the hospital. Two questions immediately suggested themselves. First: What was the source of the hæmorrhage? Does the blood come from an artery, from a vein, or from a general surface? Secondly: What line of treatment should be adopted? It was clear that the man would die gradually of hæmorrhage from the continued oozing, if not suddenly from a considerable gush of blood.

With regard to the first point, on considering the case, it appeared to him that there were four sources from which the blood might come, and, in discussing them, he thought it would be important to bear in mind the hæmorrhagic diathesis of the patient. The first source is *muscular rupture*: the man might have ruptured some muscular tissue of the calf, and in consequence of the bad state of his blood, of his hæmorrhagic diathesis, a considerable effusion between the muscles of the calf might have been the consequence. The oozing, in fact, might occur from a torn muscle in a person of hæmorrhagic diathesis, just as it might from a cut lip or finger. This supposition was to a certain extent countenanced during the operation on the 6th of February, when he saw distinctly a piece of ruptured muscle; but it is difficult to believe that so large an extravasation could arise from mere muscular rupture of limited extent. Secondly: Could the origin of the effusion have been rupture of a vein? Considerable extravasation from venous rupture may occur in the leg. A case was sent to Mr. Erichsen four years ago, supposed to be one of malignant tumour of the upper and inner part of the calf; it was semi-solid. After examination, he concluded that it was a hæmatoma, and finding by a grooved needle it actually contained blood, he laid it open by an incision, and stuffed it. The effusion was found of venous origin; the woman has since done well. In the case before us, the dark blood came welling up from the bottom and sides of the cavity, and this would argue rather in favour of its venous

origin. Thirdly: Was the hæmorrhage due to sudden rupture of an artery? The quantity of the effusion and the rapid formation of the swelling pointed to this hypothesis. Although spontaneous rupture may occur in the large arteries, as the aorta and iliacs, and in small vessels whose coats are thin, as those of the brain, arteries of the size and structure of those of the calf of the leg are rarely spontaneously ruptured; besides the welling up of the blood from the bottom of the wound militated against this supposition. But if it were an arterial rupture, what artery had given way? It must have been either the posterior tibial or the peroneal. Before the operation the former pulsated well behind the inner ankle; the latter, low in the leg generally, is too small to give rise to such effusion as was present. Neither of these could be the cause of the bleeding. Fourthly: Is the effusion due to a ruptured aneurism, with diffusion underneath the deep fascia of the leg, then escaping through it into the cellular tissue beneath the superficial layer of muscles of the calf? There was no pulsation in the swelling, but this is not conclusive against its being aneurism, although it is sometimes absent in popliteal aneurism. During the operation, a mass of decolorised fibrine was turned out of the cavity, along with the dark clots. This looked, he observed, as if the cavity had been the result of the rupture of an aneurismal sac. Or an obstruction might exist in the aneurismal tumour, so as to prevent any escape of bright blood by the upper or cardiac opening into it; and the dark blood might regurgitate from the lower opening, being conveyed by the collateral vessels. This would agree with what was observed during the operation. If there had been an aneurism, then, and if it had burst under the deep fascia of the leg and made its way down to the heel, we should have had a state of things resembling as nearly as possible the case before us.

Now as to the treatment,—fortunately not altogether influenced by the diagnosis, though he could not say which of the four suppositions he had made as to the source of the hæmorrhage was the correct one,—it appeared to him the indications were clear. Three courses presented themselves: 1st, To lay the cavity open, turn out the coagula, search for the bleeding points, and to ligature them, if any. Failing in this, or in case the bleeding should be general or capillary, to apply the actual cautery to the walls, to plug the cavity, and apply compresses and a bandage. This would be the proper practice in cases where the extravasation resulted from venous hæmorrhage, and in bleeding dependent upon muscular rupture. It would be also applicable in cases of wounded or ruptured artery. On the supposition of diffused aneurism, it would also be the correct treatment under the circumstances in which this extravasation was,—namely, already opened up, putrid, and suppurating. Indeed, he believed that it is not often that a diffused popliteal aneurism is cured by the ligation of the femoral artery; more commonly gangrene results in such cases. Under all the circumstances, enlarging the wound and trying to arrest the hæmorrhage at the bleeding points—in fact, treating the case as one of wounded artery with diffused traumatic aneurism,—was the correct practice. 2nd: Ligation of the femoral artery was set aside for several reasons; compression did not materially influence the flow of blood; moreover the hæmorrhage was either venous or distal arterial; this operation, therefore, would have been of no service. From the state of the limb, also, it would, to a certainty, have been followed by gangrene. 3rd: Amputation. Putting aside the fear of hæmorrhage, the limb was so extensively disorganised that he might have to amputate to save the patient's life. He was so weak, and his blood so impoverished, that it was very doubtful, even supposing the hæmorrhage did not recur, whether he had the strength to sustain the reparative action necessary for healing.

On a subsequent occasion, Mr. Erichsen further remarked that the amputation was not performed for hæmorrhage, which had been controlled by the means employed, but for commencing gangrene and low cellulitis—that form of inflammation which so rapidly terminates in gangrene. The line of treatment was confirmed by the dissection: not any open vessel could be found in the walls of the cavity.

#### CENTRAL LONDON OPHTHALMIC HOSPITAL.

EVERSION OF THE EYELID FROM DISEASE.

(Under the care of Mr. HAYNES WALTON.)

MORE or less eversion of the lower eyelid, with closure of the outlets of the Meibomian glands, and a diseased state of the exposed conjunctiva, are occasional consequences of inflammation commencing in the edges of the eyelid, or "ophthalmia tarsi," sometimes also called "tenia tarsi," or "tenia palpe-