ammonia four times a day. Some of the evacuated fluid, which had been received into a test-glass, had deposited a film of fibrine at the bottom. This film consisted almost solely of corpuscles lying close together, imbedded in a basis-substance. The corpuscles varied much in size: some were smaller than red corpuscles; the majority were extremely like those of pus, and, on adding acetic acid, composite nuclei were brought into view; some were much larger than pus-globules; all had a granular aspect. Aug. 6th. He brought up some blood two days previously; the medicine nauseated him. He was ordered ice, and fifteen minims of tincture of opium in water three times a day. Aug. 17th. The circumference of the abdomen was 42 inches. Paracentesis was performed again, and fourteen pints of fluid were evacuated. The circumference was now 39½ inches. There was less anasarca of the thighs, but the feet were still notably swollen. The superficial abdominal veins were still very large. The liver could be felt below the ribs, distinctly indurated. The opium was omitted, and he was ordered an ounce of infusion of digitalis and a drachm of spirit of nitrous ether three times a day; the medicine to be omitted every third day. On September 3rd, the circumference was 37½ inches. The pulse was regular, weak. The urine was very pale and copious. There was much less distension of the lower limbs. On the 7th, the pulse was 88, very weak. The mixture was omitted. On the 10th, the pulse was 110, fuller. The circumference of the abdomen was 35½ inches. The mixture was resumed. On September 14th, the abdomen measured 35 inches. The pulse was very weak and toneless. He was ordered to take half an ounce of the mixture once daily. On the 17th, he was semi-delirious and strange at night, probably from chloral, which he had been taking. Camphor and henbane were substituted, and the mixture was given twice daily. With this he slept better. By October 12th, the abdominal measurement was 33½ inches; the dullness indicating the amount of fluid was less extensive. The lower edge of the liver was felt about two-finger-breadths above the umbilicus, and its left extremity reached to about the nipple-line. The spleen was also notably enlarged, and formed a tumour in the left hypochondrium. He took food well. The pulse was regular and soft. On October 29th, the size of the abdomen was the same. The quantity of urine in twenty-four hours was, as he estimated it, about three pints. He was now ordered fifteen minims of belladonna and copaiba, and twenty minims of compound tincture of lavender in an ounce of infusion of quassia three times a day. With this, he passed (he thought) a good deal more urine; but the size of the abdomen remained the same. On November 5th, he left the hospital in pretty good case, but weak and thin. Soon afterwards he went for a month to Walton, and came back much improved. When last seen, however, his abdomen was again enlarging.

REMARKS.—That this was a very grave case of cirrhosis of the liver, there can be no doubt. The patient's life was at one time in serious danger from profuse hæmorrhage; and subsequently the dropsical fluid accumulated, even after removal, with great rapidity, so as to threaten speedy death by exhaustion. I confess I thought his condition hopeless; for, with such evidence of obstruction to the portal vein-current, it seemed impossible to accomplish anything by the administration of medicines in the usual way. The congested capillaries of the intestinal surface could not be expected to imbibe an occasional dose of fluid passing over their investing epithelium: and that this fluid could penetrate the villi and enter the lacteals in their interior, seemed almost as improbable. So much has this difficulty been felt, that Dr. Christison (I think) has recommended the application of the infusion of digitalis as a fomentation to the abdomen, in order to procure its absorption into the general circulation. I believe that the method has occasionally proved serviceable; but, if I remember aright, it was of no benefit in one instance where I employed it. Yet, all this difficulty notwithstanding, very much was accomplished by ordinary medication. The girth of the abdomen was diminished four inches below what it had been just after the last tapping; and, instead of the fluid accumulating in prodigious quantity in about twenty days, no notable recurrence of enlargement took place for four months—no medicine having been taken during the last four or five weeks of that time. This is certainly encouraging. One lesson, then, which I take from the history, is that, even where very grave organic disease exists, we are not too readily to throw down our arms and accept defeat. Perseverance may carry the day, as it often has "in our rough island story". A second lesson may be, that remedies, especially edge-tools like digitalis, require careful handling. You see that the drug was given at first in full doses, but with the precaution to omit it every third day. This method answered well for eighteen days; then the heart's action became depressed, and we had to forbear the remedy awhile. In three days it was resumed again, one small daily dose being given at first; afterwards, two such doses daily; and, under this medication, the abdomen shrank two

inches more. Remember, then, that the dosage of a remedy may be quite as important as its selection.

A remark may be made as to the sediment deposited from the ascitic effusion. It was essentially corpuscular fibrine; the corpuscles being, I suppose, white blood-cells and their developments, which had been pushed through the walls of the capillaries by the increased intravascular pressure. The resemblance of very many of the corpuscles to those of pus is noteworthy, and hints to us how we may have transitional states between passive mechanical effusions and so-called active, of which inflammation is the chief factor. Increased activity of formation of white corpuscles extruded from the vessels is perhaps the most important element of inflammation; and here we have some indications of its existence. Just in the same way, a sort of bronchial catarrh is apt to be set up when the pulmonary capillaries are engorged with blood in cases of insufficiency of the mitral valve.

Lastly, I may observe that the copaiba seemed to act very efficiently as a diuretic, and perhaps might have rendered as good or even better service than the digitalis, had it been employed earlier. In a recent case of Dr. Sieveking's, it was eminently useful.

NOTES OF A FATAL CASE OF TETANUS TREATED BY THE CALABAR BEAN.

By D. CAMPBELL BLACK, M.D., L.R.C.S. Edin., Glasgow.

SUFFERING as the science of medicine does periodically from the introduction of new drugs and their universal application, the recording of fatal cases under the influence of supposed specifics ought to be more the custom than obtains. In recording the following brief notes, I am not to be supposed as doing so with the view of throwing discredit upon the Calabar bean, but rather to encourage repeated trials of it, possibly in larger doses; and at least to indicate that general, and not specific treatment, ought to be relied upon in any given disease.

On the morning of September 29th, 1869, I was requested to visit J. R., an intelligent, somewhat precocious boy, aged 11 years, who had just sustained a severe accident to the right foot from a large slate or "flag" having fallen upon it while playing. A contused wound extended in an oblique direction from about the right malleolus to the ball of the great toe. The lips of the wound were wide apart. The wound having been carefully bathed, its lips were carefully placed in apposition by the introduction of about half a dozen wire sutures, and a cold-water dressing applied. With the exception of smart febrile symptoms for a day or two, there was nothing to call for particular attention till Friday, October 8th, when the patient complained of a slight stiffness about the jaws. The wound hitherto continued to look well; and, the sutures having given way, granulation was proceeding satisfactorily. The symptoms were not such as to call for special treatment, and accordingly a few general directions were given. On Saturday morning, the stiffness was more marked; and in the afternoon I was hurriedly sent for, in consequence of the patient having taken a severe fit, in every respect like an epileptic seizure. The nature of the case being now too manifest, my friend Dr. Morton was called in consultation. We resolved upon the application of linseed-meal poultices to the wound, the poultices being freely saturated with laudanum; and the internal administration of Calabar bean, as follows.

R Ext. physostigmatis venenosi gr. iv; aquæ ʒj. M. Twenty drops of the above to be given every hour. Thus one-sixth of a grain was administered at a time.

On the day following, the patient was much about the same. He had no return of such a violent fit as the first one till the fatal termination. At bedtime, fifteen minims of tincture of opium were administered, and wine and beef-tea as required.

Day by day, notwithstanding an unremitting perseverance in the bean, the administration of opium in increasing doses, and morphia suppositories at bedtime, with a careful general attendance to other symptoms, the patient continued in the same condition. The dose of the bean was gradually increased to thirty-two drops of the above hourly. Notwithstanding all this, the slightest excitement occasioned a decided paroxysm, though not nearly so severe as the first one. There was distinct opisthotonos. About the 13th, indications of gradually increasing weakness became apparent; little sleep was being obtained, and the fits were becoming more frequent; and on the 14th, sordes had collected in considerable quantity on the teeth. About nine o'clock of the same day, while he was drinking a little water, a violent fit occurred—so violent, indeed, that, to the patient's friends, death seemed imminent. From this, however, temporary recovery ensued; and about two o'clock on the morning of the 15th, death took place with comparative calmness, the patient retaining consciousness to the end.

Altogether, about thirteen grains of the extract of the Calabar bean had been administered. It was selected by Dr. Morton, and pronounced by him pure.

Notwithstanding the fatal results of this and some other cases, I am disposed to think, from the experiments of Dr. Watson of this city, and others, that the physiological action of this agent is such as to place its employment in tetanus beyond the pale of empiricism.

AMPUTATION NEAR THE KNEE-JOINT: AND A CLINICAL HISTORY OF A CASE OF NEW GROWTH OF TIBIA.*

By W. A. ELLISTON, M.D.,
Surgeon to the East Suffolk and Ipswich Hospital.

A CASE is just leaving the Hospital, to which I had the pleasure of directing the attention of several members of the Association this morning, and which I think is worthy of some notice, as pointing out the great advantages of a stump formed after the method suggested by Mr. Carden of Worcester, in preference to the modes of amputation at or above the knee-joint. The operation in this case was performed by carrying a fairly deep incision from the left condyle of the femur downwards, for about two inches and a half, and then across the limb just beneath the patella, and upwards to a corresponding point of the inner condyle, carefully dissecting back the integument—thus forming a long anterior flap. The limb was then transfixed behind, and, by cutting almost directly outwards, a short posterior flap was formed; the bone was cleared, and the saw applied through the condyles just above the articular surfaces of the femur. The only points which, taking a retrospective view of the operation, seem to me to be of importance, are, to make the anterior flap of sufficient length to drop in a cap-like manner well over the bone, so that the cicatrix is not in the line of pressure, and at the same time to get the advantage of a short posterior flap, so as to lessen as far as possible the risk of sloughing of an over-long anterior flap; and to make the section of the femur sufficiently low to avoid wounding the medullary canal, and thus to lessen the danger of osteomyelitis. The advantages of this operation over the ordinary methods of amputation (by flap and circular, or by a combination of both) on the lower third of the femur, are, I think, obvious. I need only refer to the great length of the stump, the movements of which will be more under the control of the patient than a shorter one, owing to the proper muscles of the femur not being divided; the entire removal of the cicatrix from the line of pressure; and the advantage of securing as a flap the integument covering the knee and accustomed to bear the weight of the body, and destitute of important vessels and nerves. The operation through the knee-joint itself has been revived and practised by many distinguished surgeons; and, although in this case it was inadmissible, if it were proved that a stump with the condyles is better, it would be the duty of the surgeon to preserve them on all proper occasions; although if in its performance it be necessary, from the nature of the case, to take the flap from the calf of the leg, I am at a loss to understand its advantage.

I desire, also, to call your attention to a few clinical observations in connection with this very interesting case. The patient, a girl 17 years of age, was admitted on December 1st, 1869. The history of her case was, that she had slightly injured her left knee some time previously, and that she had lately suffered much pain in the swelling. The swelling (having the appearance of a small chronic abscess) was close to the head of the fibula, and there was an obscure sense of fluctuation. Constitutional remedies, counterirritants, and the like, were tried without any perceptible effect. About the end of January, an exploratory incision was made; it was thought that a small quantity of pus escaped. No connection, however, could be detected with the fibula (as had been anticipated), nor, indeed, with any denuded bone. Matters went on much the same until the end of February; when, upon introducing a probe into the wound, it was found that it could be easily passed into the head of the tibia, to a depth of three inches. Her general health had much deteriorated; she had much hectic fever, lost flesh, her appetite failed her, and she suffered from sickness and shiverings. On March 4th, after consultation with my colleagues, I decided to cut down upon the inner side of the head of the tibia, and ascertain if any necrosed bone could be detected. I had very little difficulty in gouging a hole into the cavity of the bone, and immediately a large quantity of pus escaped (quite three ounces); no dead loose bone could be felt, and the patient was returned to bed. She expressed herself as immensely relieved by the operation; she rapidly recovered her health and strength,

and it seemed as if the case would terminate most favourably. Slowly but surely, however, a fungoid condition of the granulations of the original wound over the fibula sprang up, resisting all kinds of caustics. I removed a large portion with a ligature, and when this separated it could be seen that this was but a portion of a tumour having a deeper origin than the mere surface. This case seemed to me interesting in many respects; from its insidiousness before it became clear that the seat of the disease was in the tibia itself, rather than in the fibula; also, from the marked and immediate relief from the first operation; and, so far as I can discover, from the somewhat unique fact of a large accumulation of pus in association with a condition which we must regard as suspiciously suggestive of malignant tumour. The dried preparation of the bones is before you. You will perceive on the inner side the puncture which I made. Through an unfortunate omission, the tumour was not examined microscopically, and hence its exact pathology is uncertain; but little doubt was felt by those who had the opportunity of examining its appearance on the surface and in the cavity of the bone, that it was the medullary cancer (so-called at the present day), described by the late Sir W. Lawrence and others as the fungus hæmatodes.

REPORTS

OF

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS OF GREAT BRITAIN.

KING'S COLLEGE HOSPITAL.

POISONING BY A DRACHM OF HYDROCHLORIC ACID: TRACHEOTOMY: DEATH.

(Under the care of Dr. G. JOHNSON.)

ONE feature in cases of poisoning by hydrochloric acid, as contrasted with other mineral or vegetable acids, arises from the fact that in the concentrated form it is very volatile, and there seems little doubt that the gas passed into the lungs in the act of swallowing. It is not usual for any laryngeal symptoms to arise in cases where other acids are used, although they are not uncommon when ammonia is swallowed. All the caustic alkalies produce similar effects; but, in addition, ammonia, in consequence of being volatile, causes inflammation of the larynx and air-passages. Another interesting point in the following case was the rapidity with which inflammatory products were formed, for the bronchi were full of pus, and lymph was found in the pleura, although only about ten hours had elapsed from taking the acid.

A. E., a girl, aged 15, was admitted under Dr. Johnson on February 16th, 1871. From her history it seemed that, having had a quarrel with her parents, she took about a teaspoonful of hydrochloric acid at ten o'clock on the morning of her admission. Her father was a brass-worker, and therefore was accustomed to keep that acid; he thought that, from the amount left in the bottle, she could not have taken more than the above-mentioned quantity. Some warm water and salt was at once given her by her friends, with the effect of making her rather sick. When she came to the Hospital about an hour afterwards, she was just able to walk with support; her face was pale and the extremities rather cold. There were no stains of the acid round her mouth, but a few on her dress. The mucous membrane of the mouth and fauces was uniformly of a white or ash-grey colour. She complained of much thirst, but was not sick, nor had she any pain in the stomach or marked tenderness on pressure. She was at once put to bed, and a little milk was given by the mouth. In a short time she seemed to rally a little and to become warmer; her pulse was 84, and pretty full. In two or three hours she seemed to be worse, and to have much difficulty in breathing; moist râles could be heard all over the chest.

About 4 o'clock, tracheotomy was performed by Mr. Wood, but was not succeeded by much benefit. A laryngoscopic examination had previously shown that the epiglottis was swollen, white, and corroded; but not much of the glottis could be seen. The girl was then in a state of collapse; the face was pale, the lips rather livid, and the feet and hands cold. She was sensible, apparently, when spoken to, but did not seem to feel much pain. Death took place at 8 P.M., or about ten hours after taking the poison.

A *post mortem* examination was made by Dr. Kelly about twenty hours after death. The body was well nourished, and there were no external marks of injury. The mucous membrane of the mouth, fauces, pharynx, and œsophagus, was of an ash-grey colour, and the epithelial coat could be easily stripped off, leaving a red injected surface beneath. The stomach was distended, and contained undigested food mixed with a dark-brown grumous fluid; the mucous membrane was quite black,

* Read before the East Anglian Branch.