

strong and followed one another so rapidly that but little could be made out by external palpation. Per vaginam a solid rounded mass was felt pressing down the posterior vaginal wall and occupying the whole of the posterior three-fourths of the pelvis. High up behind the pelvis the os, dilated to admit four fingers, was felt. The anterior lip was soft and oedematous; the posterior lip was not well defined but stretched out over the tumour. The membranes were unruptured and a foot could be felt presenting. Per rectum the posterior surface of the tumour was felt closely fitting the hollow of the sacrum. It was quite immovable.

At 12.30 A.M. on May 12th, labour having been in progress for 20½ hours, Caesarean section was performed. After delivery of the child the uterus was tilted through the abdominal incision and the placenta and membranes were removed. The bleeding was quite inconsiderable. The tumour was now ascertained to be a large fibroid springing from the posterior wall of the cervical canal and burrowing down into Douglas's pouch. It was decided to remove the uterus and fibroid. This was accomplished by ligaturing the ovarian arteries, dividing the broad ligaments, and raising peritoneal flaps from the anterior surface of the uterus and from the posterior surface of the fibroid behind. The tumour was easily shelled out from Douglas's pouch and with the uterus was brought out of the abdominal wound. The uterine arteries were then ligatured and the cervical canal was cut across near its lower end. The cervix was sutured with a few interrupted silk stitches, dropped back, and the peritoneum sutured over in the usual manner. The abdominal wound was closed in layers. The patient at the end of the operation, which lasted one hour and five minutes, was in good condition. The child weighed nine pounds and thrived well. The mother made an uneventful recovery and left the hospital at the end of three and a half weeks.

The noticeable features in the operation were those which Amand Routh called attention to in his paper read before the British Medical Association in July, 1903—namely, the ease with which the peritoneum stripped up and with which the uterus and fibroid were drawn out of the abdomen; also the readiness with which the arteries, on account of their large size, were recognised and ligatured. There was some difficulty in deciding where exactly to divide the cervix, as owing to its canalisation it was not very clear where the cervix joined the vagina.

The parts removed consist of the uterus, both tubes and ovaries, with a fibroid springing from the posterior wall of the cervical canal and lower part of the body of the uterus. In the anterior wall of the uterus was an incision through which the child was extracted and below there was the dilated cervical canal cut across. The fibroid was ovoid in shape, the larger pole being above; it sprang from the lower part of the posterior wall of the body of the uterus and from the posterior wall of the cervical canal and projected downwards below the level of the external os for about two inches. It measured eight inches in length and five inches in breadth. The circumference at the centre was 11½ inches, two inches above this it was 12½ inches, and two inches below the centre it was nine and a half inches. The whole length of the uterus and fibroid was 14 inches.

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LITHOTRITY IN EGYPT FOR LARGE STONES.

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THE choice of operation in cases of small stones is not of great moment, for any form of operation should be successful, but when large stones have to be dealt with the operation decided upon will certainly affect the result. The fact that lithotrity, by which throughout this paper urethral lithotrity is meant, offers distinct advantages over other forms of treatment in all ordinary cases by reason of the rapidity of cure and the absence of after-suffering is firmly established, but it is not equally clear to all surgeons that lithotrity is the best form of operation in cases of stones of large size—that is, of 50 grammes weight and over. Among the English surgeons in Cairo the doctrine is held that in all cases of stone in which the urethra is capable of taking

a lithotrite of the pattern used by them lithotrity should be done through the urethra. The statistics which I am able to offer are taken from the practice of Mr. H. M. N. Milton and myself; they concern 159 cases of stones of 50 grammes and over, of which Mr. Milton contributes 113 and I 46, and they are consecutive cases and altogether unselected. All the patients were over 15 years of age with the exception of nine, of whom one 13 years of age was cured by a lithotrity, six between 12 and 14 years of age were cured by perineal lithotrity, and two between ten and 14 years of age were cured by suprapubic lithotomy. The cases treated by cutting operations were so treated either because that method was thought to be best for those particular cases at the time or because there was some mechanical difficulty other than the mere size of the stone preventing the grasping of the calculus with a lithotrite. The largest of all Mr. Milton's stones, which weighed 995 grammes, and for which laparotomy was successfully done, is not included. The largest stones treated under each heading were: by lithotrity, 452 grammes; by suprapubic lithotomy, 392 grammes; by perineal lithotrity, 387 grammes; and by left lateral lithotomy, 90 grammes. The total results obtained were as follows:—Lithotrity: cases, 84; deaths, five; mortality, 5.9 per cent. Perineal lithotrity: cases, 47; deaths, seven; mortality, 14.9 per cent. Suprapubic lithotomy: cases, 22; deaths, eight; mortality, 36.3 per cent. Left lateral lithotomy: cases, six; deaths, nil; mortality, nil. The comparative mortality of the two forms of operation, even including the lateral lithotomies which were all done for comparatively small stones, the largest only weighing 90 grammes, was, for lithotrity, 5.9 per cent. and for the cutting operations 18.9 per cent., showing a mortality in favour of crushing without a wound of 13 per cent.

Since the subject of a large stone must, from the nature of the disease, be in a certain percentage of cases the subject also of destructive disease of the kidneys, it follows that in all forms of operations undertaken for these cases there must be a certain proportion of, as it were, accidental mortality—that is to say, cases which will die after any form of treatment. This being so and the gravity of the disease itself being taken into consideration the mortality of 5.9 per cent. will compare favourably with that normal to any operation performed for disease of like gravity. Lithotrity is essentially an operation which needs practice for its efficient performance and the results of which are directly in proportion to the experience of the operator, and the dexterity necessary for the attack of large stones can only be obtained by constant practice on stones of ordinary size and weight. "Perineal lithotrity," as spoken of in this paper, is the operation described by Reginald Harrison, where the prostate is incised and the stone is broken up sufficiently to allow of its removal by forceps, and not the operation described by Keith where a small incision is made into the membranous urethra and the stone is crushed by a larger lithotrite than could be passed down the unwounded urethra and then washed out in the ordinary way. This last operation is hardly ever performed here, but the operation combining a perineal lithotomy with crushing of the stone with a special instrument is fairly common and after lithotrity gives the best results for large stones, but it has the drawback common to all cutting operations that in cases where the bladders are much disorganised by bilharzia the bladder symptoms are increased and owing to the bad nutrition of the part the wound is very long in healing and in some cases never heals at all, the patient dying even after a long interval with his wound in much the same condition as just after its infliction. There is an idea abroad that stones in Egypt are frequently very soft and that they occur in conjunction with chyluria; both these ideas are wrong, for although cases of soft phosphatic stones do occur in Egypt, as elsewhere, they are by no means abnormally frequent and the majority of stones will compare favourably, from the point of view of hardness, with those found in other countries; and also chyluria is a rare disease in this country and personally I have never met with a case complicated with stone.

The instruments used at Kasr-el-Aini are of a pattern devised by Mr. Milton. The lithotrites differ from the ordinary pattern in the large diameter of the rotatory part of the handles and in the annular form of the slides, tending to give increased power and delicacy in crushing and to diminish fatigue. The evacuating syringe is of the

simplest possible construction and the straight catheters are those generally used. The lithoclast is also Mr. Milton's pattern and is to be used through a comparatively large wound.

Cairo.

SOME OBSERVATIONS POINTING TO AN INTRACORPUSCULAR STAGE OF DEVELOPMENT IN THE TRYPANOSOME.

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ON making daily examinations of the blood from the peripheral circulation of cattle suffering from a severe trypanosoma infection I noticed free in the plasma numerous exceedingly minute spherical coccus-like bodies of a highly refractive nature. These bodies soon after their first appearance united in pairs and then became exceedingly active, the movements consisting principally of rapid flexion and extension of the combined pair and a slight absolute movement through the field of observation. 24 hours after their first appearance these bodies were seen to be no longer free but attached in large numbers along the periphery of the red corpuscles, slightly indenting their substance. On the third day the bodies, now almost completely intracorpuseular, had become very much larger and elongated to a peg-shape, the head lying in the body of the corpuscle while the shank projected from its surface, being evidently inclosed in a prolongation of the stroma which formed a sheath from which the point of the intracorpuseular body was sometimes protruded like the sting of an insect and sometimes suddenly retracted, the whole body travelling inwards through the substance of the corpuscle and impinging on its opposite wall. The projecting portions of these peg-shaped bodies, sometimes curved and sometimes straight, were in constant motion, the tips were blunt and evidently from their behaviour were provided with flagella, which, however, I was unable to perceive. In addition to these elongated bodies others of a spherical form were present moving actively inside the corpuscles and occasionally pushing the corpuscular substance outwards, elongating and appearing as projections from the surface; the condition was so general that each corpuscle contained from two to six of the bodies which gradually increased in size and gave to each individual disc an independent motion of a very interesting nature. The corpuscle could sometimes be seen to communicate a motion to its neighbour, with which it was not actually in contact, a phenomenon due, in my opinion, to the presence of flagella in the tips of the projecting peg-shaped bodies; at other times these bodies gave one the idea of trying to pull themselves free of the corpuscles and by their efforts individual corpuscles were pulled out of shape, sometimes appearing as ovals with a prolongation from each extremity from which protruded the tip of a peg-shaped body; at other times, when three of these bodies were present, the shape assumed was roughly triangular and constantly varied according to the strength of pull exerted by the contained peg-shaped bodies.

On the eighth day after the appearance of the free coccoid bodies in the plasma the intracorpuseular bodies in some cases separated to one side of the corpuscle, the hæmoglobin being collected to the other side; they then became snail-shaped and a marked constriction appeared between them and the bodies of the corpuscles, presenting the appearance of being budded off. After remaining for about 24 hours in this condition I have observed them to become detached and float free with a sluggish movement in the plasma, being then in shape, appearance and size remarkably like small trypanosomes but without sheath or spot. On the tenth day the blood of the animals, hitherto free from trypanosomes, was found to contain them in immense numbers and two days later the coccoid bodies which had been absent since the stage in which I have described them as invading the corpuscles again began to swarm in the plasma, and the cycle, which thus was completed in 10 days, recommenced.

On the appearance of the trypanosomes I made prolonged

examination of the blood with the view to discover their mode of reproduction and was unable to find in any case evidence of longitudinal fission. I noticed, however, that the parasites were very often found in pairs and observed them travelling across the slide towards one another; the parasites also exhibited motions of a very peculiar nature, the body substance becoming repeatedly retracted to either extremity and sometimes at the same time to both extremities, forming one or two spheres with a bright spot in the centre. These movements were sometimes followed by the death of the parasite and it is a matter of interest that in dying the animal invariably assumed a globular shape; this probably accounts for the difficulty in finding trypanosomes post mortem even when they have caused the death of an animal. (That trypanosomes do not alter their shape in dried smears is due, I believe, to the fact that the process of drying fixes the animal in position before it has time to assume the circular shape.) In the cases of parasites which survived longer there was often a definite series of movements of the posterior portions of the body substance to the extremity of the tail, the tail-spot being jerked along with the protoplasm, which then gradually returned to its original position, the tail-spot remaining stationary against the side of the sheath while the protoplasm rippled forward past it; the result of the movements was that the tail-spot became slowly pushed towards the hinder extremity and though I could not convince myself that I ever saw the spot being actually extruded all the movements of the parasite seemed to be purposive and directed towards getting rid of the tail-spot which seemed to constitute a source of irritation.

There is one further point—namely, that the time of the appearance of the coccoid bodies in the plasma coincided with those movements of the tail-spot and that, when under the conditions described above, a free coccoid body and a trypanosoma appeared in the same field the tail-spot and coccoid body showed such a remarkable similarity that their optical characteristics were in fact identical.

From the description by Major C. Donovan, I.M.S., which I have read in THE LANCET of Sept. 10th, p. 744, of the piroplasmata Donovan I am inclined to think that the intracorpuseular peg-shaped bodies are of a similar nature to those which he describes. From my observations it will thus be seen that minute spherical bodies will sometimes be found periodically swarming in the plasma in animals infected with trypanosomes; that these bodies unite in pairs, appearing as comma-shaped organisms with highly refractive extremities; that these bodies later invade and penetrate the red corpuscles, becoming peg-shaped and increasing greatly in size; and that they finally take on a snail-shaped appearance and are extruded into the plasma. The extrusion of the snail-shaped bodies being followed by the appearance of large numbers of trypanosomes and the peculiar movements of the tail-spot being coincident with the presence of the free coccoid bodies would also seem to indicate that in the blood under observation the reproduction of the trypanosomes was effected by the extrusion of the tail-spot which, after undergoing development inside the red corpuscles, eventually became again free in the plasma and there possibly acquired the remaining characteristics of the mature organism.

Southern Nigeria.

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

NOTE ON A CASE OF INTUSSUSCEPTION.

By J. McDONALD, M.D. EDIN.

ON Feb. 17th, 1903, I was called to a house about one and a half miles distant. On my arrival at noon I found a male child, aged 16 months, suffering from abdominal pain and vomiting and passing blood-stained mucus per anum. These symptoms had come on suddenly an hour previously. On abdominal examination a tumour was detected in the upper portion of the right inguinal region. This tumour was