

ture exerted by the ice-bag at the nape of the neck, in close proximity to the heat-regulating centres, is worthy of notice. Urethan given in large doses, on some occasions as much as eighty grains at a time, had little or no influence in procuring sleep, though it sometimes seemed to allay the extreme restlessness, which was such a troublesome factor throughout this case. Its principal effect, however, appeared to be exerted in improving and steadying the pulse.

Wallingford, Berks.

BRIEF NOTES OF THREE CASES OF INTESTINAL OBSTRUCTION ILLUSTRATING SOME POSSIBLE ERRORS OF DIAGNOSIS.

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CASE 1. *Chronic intestinal obstruction simulating tabes mesenterica.*—W. M. T—, an imbecile boy aged sixteen, with family history of phthisis. Towards the end of August, 1882, it was noticed that he had fallen off a good deal in flesh, and had occasional attacks of abdominal pain and diarrhoea. On examination of the abdomen there was found to be general enlargement with prominence of the superficial veins, and apparently a little ascites. On Sept. 21st a tumour was felt in the right iliac region, which subsequently extended into the hypogastric region; it was hard, lobulated, and easily mapped out with the hand, being evidently distinct from the liver and kidney. The symptoms were gradual emaciation, abdominal pain, occasional vomiting (which, however, was never copious or uncontrollable), and a tendency to diarrhoea, the motions being of a dark muddy colour. The morning temperature was generally about normal; in the evening it was usually a little over 100°, but sometimes as high as 102°. He died on Oct. 31st without any fresh symptoms. The diagnosis made was tubercular disease of the mesenteric glands. The post-mortem examination showed that the cause of death was intestinal obstruction. The tumour felt during life consisted of coils of intestine closely matted together by peritoneal adhesions, and distended by a dense faecal mass consisting almost entirely of potato parings.

CASE 2. *Acute intestinal obstruction simulating choleraic diarrhoea.*—S. B—, an imbecile boy aged sixteen, with feeble circulation and subject to occasional attacks of diarrhoea. On July 30th, 1883, some friends came to see him and gave him a good many sweets. The same night he had diarrhoea badly; the next day he looked very pale and ill; about noon the diarrhoea recurred, he became very blue, and his pulse was almost imperceptible. He was put to bed and stimulants administered; he looked better, but diarrhoea continued.—Aug. 1st: He was restless during the night, and the diarrhoea still continues; the stools are liquid, of a *dark-greenish mud colour*; he complains of no pain but is thirsty; the hands and feet are cold and the pulse imperceptible; temperature in the axilla 102°, no abdominal distension; tongue slightly coated; he has taken plenty of milk and beef-tea, *without sickness*. Ordered a mixture containing tincture of opium, compound spirit of ammonia, spirit of chloroform, and tincture of catechu, every three hours, and two teaspoonfuls of brandy every two hours, with warmth to the surface by hot flannels and a hot-water bottle. He, however, did not rally, and died at 2.45 next morning. The post-mortem examination showed that death was due to intestinal obstruction, the seat of obstruction being the sigmoid flexure of the colon, which was tightly packed with hard scybala.

CASE 3. *Acute intestinal obstruction simulating choleraic diarrhoea.*—Arthur T—, an idiot boy aged fifteen. Aug. 17th, 1886: The last fortnight he has been suffering from disordered bowels, apparently diarrhoea, the motions being liquid and of a dark-green colour (according to the nurse). During this time he has been sick twice, and has not taken his food as well as usual. This morning the symptoms suddenly became more acute, he vomited repeatedly during the day, and there was an almost constant liquid flux from the bowels. Towards evening he became very much exhausted, the pulse being quick and feeble and the hands and feet cold. Stimulants, astringents, and sedatives were administered freely without effect.—18th: This morning, at 8 o'clock, he looks very bad; he is hollow eyed, the surface is cold and clammy, and there is no pulse perceptible. He

has been sick only once during the night, but there is almost constant retching, and the diarrhoea has continued almost incessantly, the stools being liquid and of a peculiar *muddy* colour. The character of the stools called to mind the previous case; the rectum was therefore examined with the finger, and just at its tip a hardened mass of faeces was felt in the upper part of the rectum. An attempt was made to break it down, and then a copious enema was administered. Nothing came away immediately, but about two hours afterwards a piece of slate pencil $2\frac{1}{8}$ in. long was extracted from the rectum with the finger; subsequently, after repeated enemata, a quantity of small pieces of slate pencil about an inch long, a few bits of stick, some pieces of rag, and fragments of wool, came away. All the bad symptoms passed off, and the boy rapidly recovered.

BULLET WOUND OF SPINE; PARALYSIS; SECONDARY ABSCESSES; DEATH.

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BULLET wounds occurring in civil practice are comparatively rare, and the records of any case are always of sufficient interest to merit their publication. The following notes of a recent tragical case that has happened in a quiet seaside town, presenting some unique features, will probably be deserving of perusal.

Walter W—, aged forty-four years, a gentleman of independent means, following no profession, when on a visit to Bournemouth, went out for a walk on the Common near Westbourne, between 4 and 5 o'clock on the afternoon of Sept. 11th, 1886. He overtook and passed a man walking in the same direction, who was going more slowly and who appeared to be lame. After getting some five or six yards beyond him, he was suddenly shot in the back and fell to the ground, the man firing two other shots at him from a revolver. Assistance being rapidly procured, the assailant was secured and Mr. W— carefully conveyed to the Bournemouth Cottage Hospital, where he was temporarily attended by Dr. Snow (in the absence of myself and the other surgeons), who found him conscious, but in a state of collapse, complaining of pain in the back, numbness, and inability to move his legs freely. At 8 P.M., an examination of the wound showed a small circular opening about the level of the tenth dorsal vertebra, a little to the left of the mesial line of the spine. A probe was carefully passed down for about an inch and a half, but no bullet could be felt; there was some cedema round the wound and oozing of blood. There was found to be slight movement in the legs, but sensation was impaired, especially in the calves of the legs and dorsum of the feet. The right ear had been penetrated by a bullet, there being a small circular opening through the concha. As the patient was still suffering from shock, further examination was not deemed advisable. A pledget of lint dipped in carbolic oil was applied to the wound and some ice put over the part. Two ten-minim doses of tincture of opium had been administered at 6 and 7 P.M., and as there was still a good deal of pain over the lower part of the back and abdomen, twenty minims of tincture of opium were ordered at 9.30 P.M. The patient could not pass his urine. There was no vomiting, and he took a few ounces of Liebig's beef-tea.

Sept. 12th.—The patient passed a bad night, suffering from a good deal of pain and restlessness; one-sixth of a grain of morphia, given hypodermically about noon, afforded great relief. Owing to the serious nature of the case, his depositions were taken before a magistrate, who attended in the afternoon. About an ounce of clear urine was voided. Temperature in the morning 99.6°; evening 100.6°. Pulse in the morning 88; evening 108.

13th.—Quiet night after two hypodermic injections of morphia. Twenty-nine ounces of urine drawn off in the morning, very bloody, probably from kidneys. Bowels confined; two enemata, which were used to empty them, were not retained owing to the relaxed condition of the sphincter. Temperature, 100.2°; pulse, 108. Mr. Victor Horsley came down this evening and examined the patient. After consultation, it was considered that there was no local evidence of injury to the spinal cord itself; the partial loss of movements in the legs and the impaired sensation

were attributed more to concussion of the spinal cord than to direct injury to it. Vastus reflex present, cremasteric absent; superficial reflexes over the chest and abdomen well marked. Some pain on pressure to the right of the umbilicus felt in the leg, also on pressure on the right side of the scrotum. Crural branch of genito-crural nerve, also genital branch on the right side in line, and this pointed to pressure on the right genito-crural, and also, probably, on the right external cutaneous. The bullet probably pierced the body of the vertebra from left to right and lodged in the right psoas. The danger was, of course, septic mischief, but an attempt to extract the bullet was agreed upon.

14th.—Passed a quiet night. At 8 A.M. the urine was drawn off and found to be quite clear. The following operation was performed by Mr. Horsley. Chloroform having been given, an incision was made down the middle line of the body, beginning at the wound of entrance made by the bullet and extending down about five inches in length, and another incision was made at right angles to it, running to the left for about two inches. The track of the bullet was followed downwards to the first lumbar vertebra, and it then appeared to pass between the transverse processes of the twelfth dorsal and first lumbar vertebrae; one of these transverse processes was removed by bone pliers, but the bullet could not be found or felt by exploring with probe or otherwise. No further attempt was considered either advisable or safe. The track of the bullet was then scraped with a sharp spoon, and the bruised tissues around the entrance wound were cut out, to place the entire track in as antiseptic a condition as possible. A solution of chloride of zinc (forty grains to the ounce) was used to cleanse out the wound, which was then sewn up and dressed carefully with carbolie gauze after the introduction of two drainage tubes. Full antiseptic precautions were adopted strictly throughout the operation, which was performed under the spray of carbolie acid.

15th.—Wound dressed under antiseptic precautions; looked well. Free discharge. Urine drawn off morning and evening. Bowels relieved by an aperient of mist. sennae co. and decoct. aloes co. (of each one ounce). On testing the legs, the patient can move the right over the left, but cannot move the left over the right. Tactile sensation normal in right foot and leg, but impaired in left and absent from dorsum of foot.

16th.—Progressing favourably. Hypodermic injection of morphia continued as before. Bladder still requires use of catheter to relieve it.

17th.—Wound dressed. Small amount of serous discharge quite sweet. Sensation in left leg still diminished, and he complains of "pins and needles" in foot, also that he cannot keep the legs apart. Urine tested; no albumen.

18th.—Some slight cystitis appeared to-day. Bladder washed out with boro-glyceride solution, one drachm to the pint.

19th.—Erythematous rash over chest and back and on legs, probably due to the carbolie acid dressing. Corrosive sublimate was therefore substituted.

22nd.—Took a little solid food to-day, and passed a little urine without catheter. Wound looking well and line of incision healed, though open at either end. Some of the stitches removed.

24th.—Going on well. Temperature for last week has been 99° in morning, 100° evening. Remaining stitches taken out as they were causing some irritation. Wound had not been dressed for three days.

25th.—Bed sore forming over right trochanter of femur. Rather more motion in legs, and sensation in left a little better.

28th.—Wound dressed and all healed, except at upper part, and this only superficial. Dressed with boracic ointment.

30th.—Catheter passed only once a day. Temperature has been half a degree lower; evening 99°6'.

Oct. 2nd. Rather more feverish to-day. Temperature 99°4'; in the morning 101°8', probably due to small fibrous slough separating from the upper part of the wound.

3rd.—Still feverish. Morning temperature 99°8'; evening 102°2'.

6th.—Moved on stretcher to Lansdowne House. Complaining of some indigestion. Ordered twenty minims of compound bismuth mixture twice a day.

7th.—Restless night, and complaining of hot burning pain in legs. Temperature lower: morning 99°2'; evening 100°4'.

9th.—The last two nights have been better. Morphia has

been continued. Bladder greatly improved, and only occasionally washed out. Still great want of power in legs, especially the left. Bowels confined. Ordered pulv. glycyrrhizæ co. (one drachm) at bedtime.

10th.—Bowels acted four times, with flatulence and griping. Two drachms of brandy in arrowroot given.

12th.—Seen by Dr. Snow, and following notes taken:—"No tenderness over abdomen, and sensation normal. On the right side, between the knee and ankle, sensation is a good deal impaired, especially on the inner side over the foot, as if touched with a hot iron, and it is bent down; cold objects feel warm. On the left side, sensation imperfect below middle of left leg; cold objects also feel warm. As regards motion, the right leg he can draw slightly up, with difficulty semi-flexing it; the left leg, on the other hand, he cannot move at all. Ordered acid. phosph. dil. (five minims) and inf. cascarrill. (half an ounce) bis die ex aq. a.c.; hypodermic injection of morphia as before.

Oct. 15th.—Slight rigor towards noon, and temperature ran up from 99°2' in the morning to 104° in the afternoon. Some powders of antipyrin, ten grains in each, were ordered, one or half a one to be given every two hours till temperature falls. One powder was taken, and two halves at two hours' interval, and the temperature fell to 102°2' in the evening. Two drachms of brandy to be given with food as required.

16th.—Better. Only one half dose (five grains) of antipyrin given.

17th.—Bowels relieved by injection. Better; night temperature lower.

19th and 20th.—Two half powders of antipyrin given.

21st.—Some quinine added to acid mixture, and no antipyrin given.

22nd.—Bedsore over trochanter and sacrum extending. Very apthous mouth. Ordered six grains of nitrate of silver in one ounce of water to be applied frequently.

26th and 28th.—One or two tablespoonfuls of pus passed from the bowels: rectum examined, but nothing to be felt.

29th.—Paraldehyde (fifty minims) was substituted for the morphia, but did not answer, and he had a restless night. Abscess of small size, which had formed in the calf of the left leg, was opened.

31st.—Slight amount of pus in fæces to-day, which were also very fetid. Temperature has been lower last three evenings; since pus was passed it averages 99°6' morning, 100°6' evening.

Nov. 6th.—Was seen by Mr. Erichsen in consultation with Dr. Snow and myself. Mr. Erichsen remarked that the bullet had stopped in the vertebral column; if not, it must have gone through and wounded the viscera; it had not gone through, however, but, striking the spine nearer the mesial line than the articulation of the rib, was either arrested in the bony part of one of the vertebrae or may have dropped into the pelvis. No further surgical exploration was possible; prognosis very gloomy, owing to danger of septic poisoning primarily, and secondarily the paralysis, exhaustion, and bedsores.

29th.—Has kept on much the same, but slowly losing ground and emaciating. Bedsores have greatly extended, large dry sloughs have come away, and there is evidently communication from the sacrum to the trochanter. Aphthæ come and go in the mouth, greatly kept under by application of weak caustic solution, glycerine, and borax, and washing out the mouth with oxygen water. Fever has been persistent, but not markedly high, being between 99°8' and 100° in the morning and 101°6' or 101°8' in the evening. Tendon reflexes exaggerated on right side and blunt on left. There is a good deal of inversion of right thigh and leg, which are also œdematous.

Dec. 9th.—Certainly weaker the last ten days, and more emaciated. Bedsores have greatly extended, resembling more a dry form of gangrene; all the bones of the sacrum are exposed and skin greatly undermined, especially on the right side, where the probe runs down to the bed-sore over the trochanter. Has been ordered stimulants more freely.

30th.—Patient greatly wasted and wandering in his talk, misplacing and forgetting words; has been able to do with less morphia. Pulse has latterly run up to between 120° and 130°, thready, and very weak. Morning temperature 100°; evening 102°.

Jan. 3rd, 1887.—Slight dulness over both lungs, especially the left, where there is also some crepitation. Tubular breathing.

4th.—Very weak; respiration 36; sight, speech, and hearing gone; lung condition the same.

Jan. 5th.—Unable to swallow; unconscious; sinking.

6th.—Died this morning.

Necropsy twenty hours after death.—Present, Drs. Snow and Douglas, Parrott and Cusse. Body greatly emaciated and lower legs oedematous. Large deep bedsores over sacrum and right trochanter, exposing bone. Brain and membranes healthy except some slight congestion. Pericardium contained about two drachms of fluid. Left auricle and ventricle, especially former, full of decolourised clot. Heart muscular, tissue quite healthy, and valves normal. Left lung slightly adherent at base, and between one and two ounces of fluid in the pleura. Some congestion at base, but pieces float. The right pleura contained also a little fluid, and there was slight congestion at base. Liver natural in size and on section. On exposing and raising the bowels, a large diffuse abscess was found extending from the base of the left kidney, permeating the left psoas and passing into the internal iliac muscle. The pus was of curdy character. There were numerous small multiple abscesses in both kidneys, especially the left; capsules of the kidneys were non-adherent. On raising the psoas muscle, part of the iliac bone was found bare. After a careful and prolonged search, the bullet was found completely embedded in the twelfth dorsal vertebra, and to such an extent had the bone been penetrated that the base of the bullet did not project at all. Its situation seemed to be anterior to the transverse process. The cord appeared to be pressed upon, though not penetrated by the foreign body. Small spiculæ of bone and pieces of cloth, which had been driven in, were afterwards detached. To the naked eye there was no apparent change in the appearance of the cord or its membranes.

Bournemouth.

A TABULAR STATEMENT OF SIXTY-FOUR CASES OF ABDOMINAL SECTION,

INCLUDING FORTY-FIVE COMPLETED OVIOTOMIES;
WITH REMARKS.

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(Concluded from page 209.)

In all my fatal cases of completed ovariectomy it is probable that septicaemia was the immediate cause of death. But in one case, that of a young woman of twenty-two, the pericardium was found universally adherent from old inflammation; and in another, that of a patient of sixty-four, there was mitral disease of old standing. How far these conditions contributed to the fatal result I am not prepared to say. In four of the fatal cases the disease proved to be of a malignant character. Three of these were examples of sarcoma. In the fourth the patient had been tapped no fewer than nine times, and probably, as a consequence of the escape on some of these occasions of the contents of the cyst into the peritoneal cavity, the peritoneum had become the seat of a vast mass of soft, semi-transparent, proliferating tissue, filling up the pelvis and embedding within it the ovaries, both of which were cystic.

With regard to the condition of the second ovary, my experience has been, I believe, somewhat exceptional. Certainly, the proportion of cases, in which there was sufficiently marked disease of the second ovary to necessitate its removal, has been greater in my practice than in that of my colleagues at St. Mary's. Of the forty-five cases in the table, the condition of the other ovary in seven cases is not recorded; in sixteen it was either normal or simply atrophic, and was left undisturbed; while in twenty-two it was removed. The reasons for removal were as follows: in fourteen cases the organ was more or less enlarged and cystic; in one it was enlarged and indurated; in two the second ovary was normal, but was removed on account of a broad ligament cyst in close contiguity with the ovary; in one case there was an ordinary cystoma of one ovary and a dermoid cyst of the other; and in four cases both ovaries were the seat of advanced cystic sarcoma. In all the cases in which the

second ovary was removed the indications for that step were clearly defined, and my colleagues fully concurred in its desirability.

On three occasions I have operated on pregnant women. In one of these cases gestation had advanced to five months. Convalescence progressed normally until the ninth day, when uterine contractions commenced, and the patient aborted without any ill result. In the other two cases, the patients had only advanced two months in pregnancy. One of these recovered very favourably from the operation, and went home, but fifteen weeks after the operation she miscarried, the age of the foetus being apparently about five months. The third patient was operated upon last September. She made an excellent recovery, without interruption to her pregnancy.

When alluding to the condition of the second ovary, I stated that in four of my patients both ovaries were affected with cystic sarcoma. Two of these patients died in consequence of the operation; the other two recovered rapidly from the operation, but died within three or four months from recurrence of the disease within the abdomen. As I have said elsewhere, the surgical treatment of sarcoma seems utterly hopeless. One patient, in whom the growth had all the appearance of malignancy, completely falsified the forebodings, in which, I believe, everyone who witnessed the operation was a sharer. The case (No. 36 in the table) was that of a girl of twenty-two years, in whom a large abdominal tumour had formed with suspicious rapidity. The growth was semi-solid in its consistence. It had been punctured a few days before I saw it by means of a small trocar, but no fluid had escaped. On opening the abdomen the case looked desperate. The tumour was a large, thin-walled, multilocular cystoma, with intimate adhesions to the parietes, omentum, and intestine. The gelatinous contents had, to a certain extent, escaped through the aperture made by the trocar into the peritoneal cavity. The omentum was greatly thickened, and the peritoneum was studded with soft papillomatous 'growths'. The wall of the tumour was so thin that it gave way wherever there were adhesions to be separated, and it was impossible to prevent the contents escaping in all directions into the peritoneal cavity. I feared that I should be unable to complete the operation. In any case, it seemed unlikely that the patient could recover, and even if she did, the character of the growth led one to fear a speedy return of the disease. With much difficulty I succeeded in removing the tumour, cleansed the peritoneal cavity as well as I could, put in a glass drainage tube, and closed the wound. I told the friends what I conceived to be the nature of the case, and explained how it was scarcely possible to hope for ultimate recovery. To my utter surprise the patient got well without a bad symptom. The temperature on the evening of the day of operation was 100° F.; after that it never exceeded the normal. It is now twelve months since the operation, and the girl is at her work in perfect health.

I do not propose to speak further of individual cases; the main particulars of each will be found in the tables. There are some points, however, in regard to the operation and after-treatment, about which I shall probably be expected to say a few words.

Up to the end of 1886, I continued to use the carbolic acid spray in my operations. Personally, I have never seen it do harm, and as my cases seemed to me to do well in proportion as the details of the antiseptic method were rigidly adhered to, I hesitated to abandon any part of a system to which I owed so much. I do not consider the spray essential, and, indeed, I have since dispensed with it; nevertheless, it had its use, if only by being an emphatic reminder to everyone in the room that the case was being dealt with on antiseptic principles.

Of much more consequence than the spray is the thorough purification of the hands, sponges, and instruments. For the hands I now always employ a solution of corrosive sublimate (1 in 1000). For the sponges and instruments I use a solution of carbolic acid, of the strength, in the former case, of one part in forty, in the latter of one part in twenty.

In every case in which there is reason to anticipate oozing from the site of adhesions or any accumulation of fluid in the peritoneal cavity, from whatever source, I use the glass drainage tube. In simple cases I prefer to do without it, because I can then leave the dressings undisturbed for several days—a point, in my opinion, of no little importance. It will be found, on reference to the table, that the drainage