break is an instructive one, as showing how impossible it is to arrive at a conclusion regarding the safety of a water supply upon chemical evidence only.

HEPATOTOMY AS A TREATMENT FOR HEPATIC ABSCESS.

By FRANCIS T. HEUSTON, M.D., F.R.C.S.I.,

Surgeon to the Adelaide Hospital; Consulting Surgeon to the Coombe Hospital; Professor of Anatomy, Royal College of Surgeons.

THE very interesting and instructive papers on the surgical treatment of hepatic abscess, appearing in recent numbers of the *BRITISH MEDICAL JOURNAL*, induce me to bring forward the notes of a case which lately came under my observation, as I am strongly of the opinion that the fear expressed by most writers on this subject as to hæmorrhage from the liver, and the danger of pus escaping into the peritoneal cavity is much overrated, as shown by recent abdominal surgery.

I can readily understand that if a liver abscess be evacuated by an aspirator, pus may escape by the side of the needle into the peritoneum. Or that, as the sac fills again and the tension becomes great, the pus will follow the track of the needle, and having no point of exit be forced into the peritoneal cavity; but in cases where a free incision is made in the first instance and kept patent while pus continues to form, there can be little or no danger of the pus passing into the peritoneal cavity even when no adhesions exist between the parietal peritoneum and that covering the liver, as the normal contraction of the abdominal muscles is such as to hinder extravasation, as shown in the case of the second abscess I operated on.

A. P., aged 27 years, a clerk, booked with the Imperial British East African Company as an assistant, in December, 1890, and was sent to Mombaza, 140 miles north of Zanzibar. Soon after arrival he was attacked by remittent fever; and after a residence of four months, was sent to Aden to recruit his health. On the voyage, the weather being very hot, he slept without bed clothes, and on awaking in the morning felt chilly, and had a stitch-like pain in his right side; this, however, shortly disappeared, giving place to a heavy, dull, persistent pain in the right side. After a short stay in Aden he returned to Mombaza in much better health. About six weeks later the fever again attacked him, which necessitated his return home in September, 1890. On the voyage home he so far recovered his health that on his return he was appointed clerk on the Great Southern and Western Railway, which post he soon relinquished owing to a recurrence of his illness. I saw him on December 3rd, 1891, and took the following notes of his condition. The complexion was sallow, the pulse 112, regular and compressible, the tongue coated with thick white fur; he was losing flesh rapidly, and for the past three weeks vomited large quantities of a light green fluid, solid food caused pain in the epigastrium. The bowels were regular, with light coloured motions; he had a feeling of numbness and tingling in the left leg, corresponding to the cutaneous distribution of the musculo-cutaneous nerve; sensibility was diminished. His liver was greatly enlarged, giving rise to bulging out of the ribs and fullness in the epigastrium. He complained of a dull aching pain in the hepatic and right iliac regions, also of tenderness below the costal arch, chiefly in the epigastric region; the spleen was slightly enlarged; flatus passed frequently by the mouth and rectum; there was constant nausea and occasional mucous vomiting; the breath was very offensive. The urine was clear, high coloured, acid, of specific gravity 1021, and contained a trace of albumen and bile pigments, but no sugar; the chlorides were abundant.

The patient was kept under observation until December 8th. The temperature varied between 100° F. and 101° F. in the morning, and 102° F. to 103° F. in the evening; his liver increased rapidly in size, a distinct enlargement occurring in the epigastric region to the right of the median line.

Operation being determined on, an incision 3 inches in length was made parallel to the right costal arch in the epigastric region, commencing opposite the seventh costal cartilage, and the liver, which was pale in colour and not adherent to the abdominal wall, exposed. A small aspirator needle was passed into the liver, pus being found at once, a little oozing out beside the needle; 20 ounces of a chocolate coloured pus were at once removed by the aspirator. Tension being now relieved in the abscess, a free incision was made through the walls of the sac, and about three pints of pus removed, the opening in the liver being held by forceps in close contact with the wound in the abdominal wall. The sac was now washed out with boric acid solution, and sutured to the abdominal wall by two rows of gut, the first attaching the liver half an inch from the opening in the abscess sac to the parietal peritoneum and deep muscles, the second attaching the margin of the opening to the incision in the skin. Two large drainage tubes were introduced to keep the opening patent, and the whole dressed with zinc sulphate gauze.

The condition of the patient improved rapidly after the operation: the temperature varied from 99° F. in the morning to 101° F. in the evening; nourishment was freely taken. For the first few days there was a very free discharge of pus; the sac was washed out daily with boric acid solution, and the amount of discharge rapidly became less. On December 18th pain was again complained of in the epigastrium; his temperature rose to 102°, and by December 21st a slight tumour was observed in the

epigastrium to the left of the median line. His symptoms becoming aggravated, an aspirator needle was passed into the tumour on December 23rd and pus found. I now made an incision to the left of the median line, exposing the left lobe of the liver, which I found partially adherent to the abdominal parietes. On incising the liver I removed about a pint of pus, but I found that when I attempted to suture the liver to the abdominal wall the stitches tore through the liver substance. So a strip of zinc sulphate gauze was introduced, and pressure applied by a pad to the abdomen below the opening. At the time of this operation the abscess opened into previously had almost ceased to discharge pus, and was practically well. The abscess opened into now made an equally favourable and rapid recovery under daily dressings as before, but the patient's strength gradually failed, and he died from asthenia on December 31st, eight days after the second operation.

Post-mortem Examination.—The liver was adherent to the abdominal wall at the sites of the operations, completely closing off communications with the peritoneal cavity. It weighed 110 ounces; the abscess cavity operated on in the right lobe was represented by a fissure about two inches in depth and lined by a distinct membrane and contained no pus. The abscess cavity in the left lobe was capable of containing about 5j of fluid. Another large abscess was found in the posterior portion of each lobe filled with pus; those were entirely out of reach of operative interference. The spleen weighed 3xij; the kidneys were normal; there was no evidence of peritonitis.

PERINEAL DRAINAGE IN SUPRAPUBIC LITHOTOMY.

By H. HERBERT, F.R.C.S.ENG.,
Surgeon Indian Medical Service.

VERY little reference is made in British textbooks to this mode of drainage in suprapubic operations, still less to the differentiation of cases requiring it. And for this two reasons are perhaps accountable. First, it is really very seldom needed in civilised countries, where cases of stone usually come under treatment at an early stage. And, secondly, if the drainage by this route is not perfect, it is practically useless. Drainage by the urethra is too uncertain to be employed with any satisfaction. To be perfectly successful, a tube other than the ordinary lithotomy tube or soft catheter must be used. These are liable to blockage either from the falling down of the collapsed bladder wall or by mucus and pus. I found a silver lithotomy tube pierced with two rows of large closely set openings for the terminal $1\frac{1}{2}$ inch of its length sufficient for the purpose. The puncture in the perineum being made after the suprapubic wound with the left index finger in the prostatic urethra from above as a guide is one of the simplest of counter-openings, large enough only for the introduction of the tube, and, if kept accurately in the middle line, necessitating the loss of scarcely a drop of blood. True drainage is secured as distinguished from the overflow through the suprapubic wound, which, together with the cavity of the bladder, is kept perfectly clean, and thus absorption from a large raw surface is avoided.

The first time I was led to practise this drainage was purely accidental. The patient was an emaciated Arab, 30 to 40 years old, with a stone (since given to the Leeds Museum) over 10 ozs. in weight, largely phosphatic, with alkaline urine. Having tied the penis with a tape after the injection of only 4 ounces of fluid (instead of using the pressure of a column of fluid through a large catheter, as should always be done), the membranous urethra ruptured, and the penis, perineum, and scrotum rapidly filled up. This is an accident which I have not seen recorded elsewhere. The vesical walls were much hypertrophied. To relieve this, I made a median puncture at the base of the perineal swelling, extending into the urethra, so that it should be available for bladder drainage afterwards. But it necessarily wounded the bulb, and the consequent loss of blood must have contributed to the ultimate fatal result. For some days soft catheters were used for drainage, and the patient put on his back on an inclined plane. But it was not till the above-mentioned tube was used that we succeeded in keeping the large upper wound dry, and even then it was found advisable to insert a strip of gauze into it as an additional precaution. On the fifth evening the drainage was discontinued, as the one constant position was irksome to the patient. But next morning the usual drop in temperature was absent, and the patient distinctly not so well, so it was resumed till the ninth evening, when again an attempt was made to dispense with the tube. The patient's temperature had varied between 100° and 103° F., but his tongue was

moist, and he took nourishment freely. Urine still faintly alkaline. The ill effects of this second change were, however, quite unmistakable, and constitute the strongest argument in favour of perineal drainage. In the night the patient became restless, complaining of pain about the wound; and next morning there was the highest temperature reached—103.6° F.—with headache, pain in the wound, drowsiness, absolutely dry tongue, and almost complete suppression of urine. The patient died in the evening (tenth day). The feeble granulation tissue was evidently unable to resist the absorption of poisonous matter from the septic urine.

Shortly after this I removed a mass of six phosphatic calculi, weighing nearly 4 ounces when dry, by this method, with the perineal puncture, from a man about 40 years of age. The smaller of these calculi were deeply embedded in the prostate and neighbouring part of the trigone, and the pits left could not be perfectly drained. The urine coming down from the renal pelvis was very foul, and was slow in becoming sweet. Thus there was a high temperature for five days, but the large wound being kept perfectly clean rapidly contracted, and the patient did well.

Shortly after this again I performed suprapubic lithotomy on a man 55 to 60 years old. Though the urine was stinking, specific gravity 1007, average 44 ounces daily, the stone was little more than one ounce in weight, and had but a thin coating of phosphates upon it, and was very easily and quickly removed. Thinking this such a favourable case as not to need special drainage, it was simply treated in the ordinary way by frequent washing out from above and no perineal opening. But the wound became sloughy, and after a week collapse with hiccough and a falling temperature gradually set in, and the man died on the eleventh day with a temperature of 96° F. After death a small retropubic abscess was found shut off from the sloughy wound, and the kidneys extensively sacculated.

I feel certain that perineal drainage would have saved this patient, and am persuaded that the two chief causes of death after suprapubic cystotomies, suppurative nephritis, and retropubic abscess, as illustrated in these cases, should be generally eliminated by this measure properly carried out. These are the only "high operations" I have done in adults with foul alkaline urine and disorganised kidneys. In children special drainage is perhaps never needed, and in adults the probable state of the kidneys, as far as can be judged from the urine, the size and character of the stone, and from general conditions, seems to be the main consideration in its employment, though it is quite questionable whether it might not prove an advantage in all cases where the urine is stinking and alkaline.

A SIMPLE METHOD OF DRESSING OPERATION WOUNDS.

By HUBERT HIGGINS, M.R.C.S., L.R.C.P.,
House-Surgeon to Addenbrooke's Hospital, Cambridge.

HAVING, with the concurrence of the surgical staff of Addenbrooke's Hospital, employed the following plan of dressing wounds during the last eighteen months, I now venture to make it public on account of its efficiency, economy, and simplicity.

When practicable the patient is given a bath, and after the part to be operated on has been shaved, it is thoroughly scrubbed with soft soap; the soap is then carefully washed off with clean water, and the surface sponged with a strong solution of corrosive sublimate. A piece of towelling soaked in sublimate solution is then bandaged on to the prepared surface, and not removed until immediately before the operation. I first used soft soap about two years ago, after having heard of some exhaustive experiments made in Germany with the object of testing its properties. These appeared to prove satisfactorily that it was remarkably effective for cleansing the skin, and simply invaluable for cleaning instruments.

Constant use has more than confirmed the claims made for it. If it is thoroughly and carefully used, it is more reliable than either ether or turpentine; the dark green semi-transparent variety is the best.

I believe many surgeons think that, provided an operation

has been carefully performed with perfect antiseptic precautions, it is desirable to place next to the wound a soft unirritating aseptic material unimpregnated with antiseptics. With that object I have prepared such a material by keeping soft unmedicated gauze (costing 1d. a yard for 1,000 yards) in covered earthenware jars containing a solution of 1 in 500 of corrosive sublimate. A gallon jar holds about 100 yards, and, provided the solution is changed once a fortnight, the gauze will keep for an indefinite period, becoming, if anything, softer and whiter with time. A sufficient quantity of this gauze is cut off immediately before it is required and wrung as dry as possible. It is then put into a sterilised basin containing either boiling water or water that has been boiled. It is taken out by the operator and again wrung dry, shaken out loosely, and placed on the wound. The gauze is kept in the solution in order that it may be absolutely aseptic, and wrung out after soaking in boiling water to remove the corrosive sublimate, which might cause irritation of the healing surfaces. I believe it to be an essential and important detail to wring out the gauze as dry as possible, as mere excess of moisture is often as irritating as corrosive sublimate itself.

It then becomes necessary to cause all air that has access to the wound to undergo filtration through a medium such as cotton wool. If wool is used it should be put on in thin uniform layers and in large quantities. When a large quantity is used it secures the double advantage of absorbing and drying up the discharge and of maintaining a uniform elastic pressure. The wool should be unirritating and aseptic. Salicylic wool best fulfils these requirements, but Mr. Hankin suggested that the most efficient material would be absorbent cotton wool sterilised by superheated steam, and kept in stoppered glass bottles, to be opened only by sterilised hands at the time of operation.

The practice of Addenbrooke's Hospital is, as far as possible, not to use drainage tubes in operation wounds, and to apply firm pressure with the bandage. I have used this method in all the out-patient practice of the hospital, and it is rarely that we find a wound suppurate.

It will be obvious that such a mode of dressing as I have described would very considerably diminish the expenditure of a hospital. The gauze is of a good width and the cheapest that can be obtained; the corrosive sublimate has an almost nominal cost, and provided sterilised cotton wool be used, I feel sure that there can hardly be a more economical method for general use.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

EPITHELIOMA OF THE LIP IN WOMEN.

EPITHELIOMA of the lip is undoubtedly rare in the female compared with that affection in the male, but cases of the former do occasionally come under observation, although possibly they are not recorded. There were three cases of such admitted into the Cancer Hospital, Brompton, during the last three years, compared with 65 cases of epithelioma of the male lip. But there is another point of interest, for whereas in the male the lip affected was the lower in every case, in two out of the three in the female it occurred in the upper lip. Epithelioma of the upper lip in a man is extremely rare; I have never seen a case. In face of these facts can it be doubted that cancer, in this situation at least, owes its origin to irritation, and that it results in the great majority of cases from smoking?

The following are the notes of the cases:

CASE I.—A woman, aged 64, married, with no family history of cancer. She noticed a little pimple on the upper lip four years ago. This broke and has since been continually discharging. The last six months there has been distinct hardness. Present state (June, 1889): Epitheliomatous ulcer of upper lip, which was excised by Mr. Elam.

CASE II.—A woman, aged 49, married, and has nine healthy children, with no family history of cancer. History: She thinks there has always been a hardness on the left side of the upper lip; about six months ago this was scratched, since which there has been a sore which does not heal but scabs over from time to time. It has increased in size the last two months. Present state (January, 1890): On the upper lip, towards the angle of the mouth on the left side there is a thickening of the lip with a