Case 14. Epithelioma of lip. The usual history of constant smoking, the pipe being held on one side of the mouth. The growth was removed three times with many years between the operations, the lip finally remaining clear for twenty years, when he was attacked with bladder symptoms and a walnut-sized tumour was removed by one of us. Several months later the rectum became involved.

Case 13. Epithelioma (doubtful). The trouble originated from the habit of continuously holding nails between the lips while at work, these acting as a chronic irritant.

Case 30. Cancer of the rectum. This patient suffered for long with piles, which were irritated by bicycling and riding.

Case 8. Cancer of bowel. A history of injury to the side while wrestling was given; the side had felt weak all his life.

Case 16. Cancer of rectum. A long history of piles was given.

Habits of the Patients.

All the cases affected led healthy lives, much of the time being spent in the open air. With regard to their diet, they were all hearty, some of them very large eaters of meat. They all drank tea with all their meals, and frequently between meals. The tea is taken very strong, and often drunk out of tin pannikins in which it has stood for a considerable time. As a general rule, tea was taken with meat at least three times a day.

Case 1. Drank tea to excess; also a good quantity of alcohol; and later drank "pain-killer."

Case 2. Excessive tea-drinker and smoker.

Case 6. Heavy smoker and drinker.

Case 8. Excessive tea-drinker.

Case 10. Excessive tea-drinker; also took alcohol.

Case 11. Much tea and alcohol.

Case 16. Excessive tea-drinker.

Cases 5, 24, 29, 30. Took tea in excess.

Many of the other cases indulged very freely in tea, but the 11 cases quoted above may be said to have been immoderate in their indulgence in tea.

It may be noted that out of 11 female cases only 2 were stated to be excessive tea-drinkers, proving that in this country over-indulgence in tea is commoner in males than in females. This bears out the experience of many practitioners who live in country districts.

No actual malaria is endemic in this particular district, but many of these patients suffered from subacute and chronic rheumatism, especially those who worked on the ground before it was drained. It is difficult to obtain exact statistics of the prevalence of cancer in New Zealand with reference to the respective districts in which the disease first was diagnosed. The four large centres, Dunedin, Christchurch, Wellington, and Auckland, naturally show the greatest number of cases. To these centres patients come for treatment from the country districts. On the West Coast of New Zealand, where the rainfall is very large, we have been only able to gather statistics from one or two practitioners.

Dr. Brittin, who practised at Ross, on the west coast, kindly searched all his notebooks and death certificates for cancer cases. He writes to us that during three years' practice on the coast he had 35 deaths; 20 of these were under 9 years of age. Of the remaining 15 which occurred between the ages of 10 and 78 years, 5 were due to cancer—4 males, aged 53, 53, 59, and 63 respectively, and 1 female, aged 62; 4 of these were cancer of liver or stomach, and 1 a cancer of the orbit. He says: "In three years' practice on the coast I had 5 deaths from cancer out of 15 adult deaths. In 10 years' practice in Papanui (east coast) I had 1 death from cancer out of 70 from other causes. On the west coast in the mining townships and camps the diet was 'frying-pan meat and billy tea.' The tea leaves were emptied out of the 'billy' once a week, and the billys always showed signs of corrosion. The water contained iron and tannin from the decomposing vegetable matter in all the bush streams. The whole district was bush, and my patients lived in small huts. Chronic rheumatism was universal."

Alfred Haviland, in his article on medical geography, points out the highest mortality of cancer is found around the lower courses of fully-formed rivers that seasonally flood their riparian districts; the lowest cancer mortality is found on the most elevated tracts of country, and correspond to the area of older rocks, the highest mortality groups being coincident with the more recent geological formations, especially the clays and the still more recent alluvial soils. This theory is certainly borne out by the collection of cases recorded by Dr. Brittin and Dr. Hislop.

Cancer Houses.

D'Arcy Power gives a number of instances where several persons living in the same house have developed cancer. Thus, in a brick house on land formerly pasture land, three cases following each other died of cancer. Several other instances are recorded. In some, however, the patients were related.

Cases 1 to 6 all lived at some time in the same house, and under the same conditions, although none of them happened to die in this house.

The neighbourhood of the native bush and bush streams seem to have some distinct connexion in the origin of the disease. Malaria may not be an antagonist to cancer, but it is significant that where malaria is common cancer appears to be rare. It may not be improbable that there is some malarial poison antagonistic to the growth of cancer cells.

So many of the cases were rheumatic, and rheumatism is so prevalent in subacute or chronic forms in bush districts, that we can hardly ascribe the coincidence of rheumatism and cancer to an accident. It is not impossible to imagine that the circulation of the blood in rheumatic cases may act as a direct irritant to the tissues.

So many cases of cancer appear to follow a definite injury that one is obliged to believe in a direct connexion between traumatism and cancerous invasion—epithelioma of the lip, so rare in non-smoking females; cancer following gall stones; the Kaigu burn disease, so frequently seen in Kashmir; cancer of the scrotum in sweeps, now rarely seen since the modern chimney has altered the conditions of chimney cleaning—all point to irritation as localizing agent for cancerous invasion.

Out of 201 cases of cancer of the penis, Captain Whitlock, R.A.M.C., observed that they all occurred in Hindus who were uncircumcised, and none in Mohammedans who were circumcised. Sarcomata affecting the lower extremity is more common in Hindus, who go barefooted, than in Mohammedans, who wear shoes.

Against the irritation theory, it has been said that cancer of the penis occurs not in stallions, as one might expect from the irritation of coition, but in geldings; this, we believe, is due to the irritation of the dirt within the sheath, for a well-known horse dealer has informed us that by daily cleansing the inside of the sheath he can improve the health of a gelding immensely, and add to its market value considerably.

The cases of cancer admitted to the hospitals, being drawn from all over the district, do not give any information of interest, but in the last fifteen years we have been struck by the fact that carcinoma is appearing at an earlier age than formerly. It is very little comfort to console ourselves that it is due to a more careful or more accurate diagnosis that cases are detected earlier. The fact is, they do seek advice at an earlier age.

RODENT ULCER TREATED BY POTASSIUM BICHROMATE.

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THE case under consideration was a woman of 82 years of age. When she came under my care at Ayr District Asylum she had a history of having had a "sore of the nose" for two years. On examination the condition was found to be typical of rodent ulcer. Vertically the ulcer extended from the nasion above to the inferior border of the nasal bones below. Laterally it approached to within $\frac{1}{4}$ in. of the inner canthus of the left eye, and to within $\frac{3}{4}$ in. of the inner canthus of the right eye, and covered most of the bony skeleton of the nose. It presented a well-defined "rolled" irregular border, with an ulcerated centre showing no granulations. The patient felt no pain, but complained of great itching, and in consequence she was continually picking at the ulcer.

On account of the extent and position of the ulcer, it was thought impracticable to employ surgical means for its removal. The use of potassium bichromate was suggested by the paper of Dr. James Fenwick.¹ A 10 per cent. aqueous solution of the bichromate was painted on the surface of the ulcer night and morning for a few days,

until a marked inflammatory reaction in the surrounding tissues occurred, the ulcer being protected between times by a piece of lint retained in position by strips of sticking-plaster. The bichromate was then stopped, and a dressing of boracic ointment applied until the surrounding inflammation was allayed. The ulcer then appeared to be in a healthier condition, the floor having been partly destroyed and granulations becoming evident.

The process was repeated twice, bichromate being painted on the ulcer night and morning as before, with a similar result, and being followed by the application of boracic ointment. The effect of the potassium bichromate was the production of a sloughing of the unhealthy tissue over the whole floor, which extended also under the rolled edge of the ulcer. Healthy granulation was promoted, and, after the completion of the third series of applications of the bichromate, the epithelium spread rapidly over the ulcer, which healed completely, leaving a somewhat irregularly-pitted scar.

From the beginning of the treatment till the ulcer was apparently cured occupied a period of three months. Two weeks later, however, a small part of the margin of the cicatrix began to break down. Two further repetitions of the process were sufficient to cure this, and so far no further recurrence of the condition has taken place.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, March 6th, 1909.

TWO CASES OF ASCITES DUE TO LIVER CIRRHOSIS TREATED BY OPERATION.

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THE whole subject of the surgical treatment of ascites secondary to cirrhosis of the liver was so fully dealt with by Mr. Sinclair White in the paper with which he opened the discussion at the British Medical Association meeting at Toronto in 1906,¹ that it requires me to say that the object of this communication is merely to add two unpublished cases to the literature of the subject.

The operation of omentopexy as devised by Drummond and Morison is a valuable addition to surgery, and if it does not as yet occupy the place it deserves it is because sufficient care has not been taken in the selection of cases. It is only proper that such a means for the cure of ascites should be tried in cases widely dissimilar, for only in this way can its usefulness be extended; but, as I pointed out in a short paper read in Toronto,² it is not fair that the cases should be lumped together for statistical purposes. When the operation is reserved for uncomplicated cases of ascites due to alcoholic cirrhosis that have withstood one or two tapplings, the results are very much better than is generally supposed, and I am glad to be able to contrast a case in which the indications were such as to lead one to expect a successful result with one in which the operation was undertaken rather as a forlorn hope than with the expectation of recovery.

CASE I.—Cure of Ascites due to Alcoholic Cirrhosis: Double Radical Cure of Hernia Subsequently: Patient Alive and Well Two Years and Nine Months Later.

J. T., aged 46, a gas works labourer, was admitted to the Newcastle-upon-Tyne Royal Infirmary under the care of Dr. George Murray on September 22nd, 1906, complaining of swelling of the abdomen and ankles. The patient came of a healthy family, and had usually enjoyed excellent health in spite of the fact that he had always been a heavy beer drinker. His present illness began twelve weeks previously with swelling of the abdomen, which became so distressing that he had to be tapped four times in the eight weeks preceding admission. He suffered very much from shortness of breath, which was relieved after the tapping. The secretion of urine was very scanty, but there was no trouble with micturition. Recently he had lost flesh considerably. When 20 years of age the patient contracted gonorrhoea, but there were never any symptoms of syphilis. Twelve years previously he was operated upon for double hydrocele. Four years ago a right inguinal hernia presented itself as the result of heavy lifting, and seven months ago it gave him so much trouble that he began to wear a double truss.

On his admission the patient was found to be a big man, weighing 13 st., but looking anaemic and ill, and with a dirty tongue, though he had a good appetite. The temperature was 97.8°, and the cardio-vascular system normal, with a pulse of 80. There were some crepitations at both bases; urine was very scanty and of specific gravity 1030, but there was no albumen or

sugar. The abdomen was full of fluid, which distended the sacs of a double inguinal hernia. While in the medical wards the patient was tapped four times—namely:

September 23rd	...	...	...	447 oz.
October 6th	...	...	...	398 oz.
October 20th	...	...	...	432 oz.
November 3rd	...	...	...	394 oz.

As the condition was not improving, Dr. Murray asked me to see the case with a view to surgical interference, and I looked upon it as a very favourable one for omentopexy.

Operation.

The patient was prepared in the ordinary way, and on November 6th, 1906, I carried out the following operation:

The abdomen was opened by a median incision, 4 in. long, above the umbilicus. The subperitoneal veins were very large and numerous. An enormous quantity of fluid escaped as soon as the peritoneum was opened, and a separate small incision was at once made above the pubes for the introduction of a Keith's tube through which the fluid escaped during the remainder of the operation. The liver was found to be very small, markedly hobnail, and much fissured. The spleen was twice its normal size. The omentum was shrivelled up, so that it lay like a fringe along the transverse colon. There were numerous vascular adhesions about the liver, but none elsewhere. After emptying the abdomen of fluid with sponges the surface of the spleen and the corresponding parietal peritoneum were thoroughly scrubbed with a sponge, but no attempt was made to treat the liver in this way, for fear of disturbing the existing adhesions. The omentum was then fixed to the parietes by silkworm sutures tied over gauze dozzles. The incision was closed in layers with catgut, the Keith's tube being left in the pelvis and the abdomen carefully strapped from above downwards. Special nurses were employed to keep the tube clear of fluid, and this necessitated its being drawn every fifteen to thirty minutes for the first few days. During the seventeen days the Keith's tube was allowed to remain the daily amounts of fluid averaged 12 oz., and during the three days immediately preceding its removal the amounts were 31 oz., 29 oz., and 5 drachms respectively. At this time the glass tube was replaced by a rubber one, and as the fluid gradually lessened this was removed a week later.

After-History.

A month after the operation the man was able to leave the hospital much improved in general condition, but still with some free fluid in the abdomen. To help absorption he was given a little potassium iodide and mercury, and this he took continuously for the next five months. A fortnight after leaving the hospital the abdomen was tapped for the last time, 6 pints and 7 oz. being removed. In the middle of January, 1907, the patient was very well. He slept and ate well; the bowels were regular; there was very little fluid in the abdomen and much less swelling of the feet. A month later the man reported himself as still very well, his principal trouble being due to the distension of his hernial sacs with what fluid remained in the belly. The use of a suspender gave him some relief, but it was eventually decided to rid him of this inconvenience by operation.

Operation on Herniae.

On May 6th, 1907, both herniae were operated upon by the method of Bassini. The superficial veins over either hernial region were unusually prominent, but there was nothing else worthy of note about the operation. For two or three days after this interference the man was decidedly lethargic; there was slight jaundice and an erythematous eruption, but, to my great relief, these symptoms quietly disappeared, convalescence thereafter being uninterrupted.

After-History.

By the middle of June he was much better than he had been before the hernia operation, and in August he went back to work. In July, 1908, the patient reported himself in excellent health; he had worked continuously since starting, and had no complaint to make beyond the inconvenience caused by a cyst of the epididymis on the right side, which he wished had been cured at the same time as the hernia. When the man next reported himself, in August, 1909, he looked the picture of health and expressed himself as in better health than ever before, weighing 14 st. He was working regularly, earning £1 a week as a labourer in the gas-yard, and eating and sleeping well. Since the operation he has not taken alcohol in any form.

This, then, was a case which fulfilled the indications which an increasing experience has shown may justify us in predicting a successful outcome for the operation.

(a) It was clearly a case of alcoholic cirrhosis.
(b) There were no cardiac, renal, or pulmonary complications.

(c) The patient had withstood several tapplings. There were one or two points about the operation worthy of comment. The subcutaneous veins and the subperitoneal plexus were tremendously enlarged, and there were many vascular adhesions about the liver, but not between the omentum and the parietes. The deductions to be drawn were not quite clear. Did it mean that