Museum of the Royal College of Surgeons. They were taken after death from a man 19 years of age, whose "kidney was hydronephrotic and the ureter narrowed." The calculi in this case probably amount to 40,000. None exceeds $\frac{1}{2}$ in. in diameter. In structure the concretions are crystalline at the centre and laminated towards the exterior; they are composed of nearly pure oxalate of lime.

CANCER OF GALL BLADDER DUE TO IRRITATION OF GALL STONES: CHOLECYSTECTOMY AND PARTIAL HEPATECTOMY.

By J. HUTCHINSON, JUN., F.R.C.S.,
Surgeon, London Hospital.

THE following case possesses many points of interest:

A woman, aged 66, was sent to me by Dr. Miles Milroy of Hampstead with the diagnosis of gall stones. There could be no doubt she had suffered from a collection of these in the gall bladder for over two years. During this time she had repeated attacks of abdominal pain; each attack lasted upwards of twenty minutes, and was accompanied by retching and followed by sweating. A warning of each attack was given by her becoming somewhat yellow, and subsequently slight jaundice became more obvious. She was constipated, and the stools were of light colour after the attacks. She was not known to have passed any calculi, but the operation showed that these were mostly small and would readily escape notice. After each attack there was much prostration, and for a time some distension of the abdomen.

When I saw her first, in July, 1904, there was a deep-seated rounded swelling in the right hypochondrium, which moved downwards an inch on deep inspiration. The dullness over it was continuous with that of the liver. The tumour could be moved from side to side to some extent and had all the features of a distended gall bladder. Her urine was normal. In the right lung at the apex were some signs suspicious of tuberculous change. The patient was thin, and attributed her weakness and wasting to the sufferings which attended the attacks of biliary colic. I admitted her to the London Hospital and operated on July 22nd. A free vertical incision through the right rectus muscle showed a distended gall bladder overlapped by the liver edge. The latter being raised, the fundus of the gall bladder was incised, and over eighty calculi removed from its cavity. Most of these were small and faceted, but there were two or three larger ones, the largest being $\frac{3}{4}$ in. in diameter. The gall bladder was entirely cleared with the scoop and by irrigation. It was then found that the fundus was thickened and rendered hard by carcinomatous growth, with small papillary projections of the mucous membrane. Examination showed that the cancer had extended into the liver immediately above, where it formed rounded lumps, but the infiltration appeared to be limited to the immediate neighbourhood of the gall bladder. I therefore determined to excise a wedge-shaped piece of the liver with almost the whole gall bladder. When this was done considerable haemorrhage followed, but was controlled by pressure and ultimately by deep catgut sutures, bringing the sides of the extensive hepatic wound together. The neck of the gall bladder was then sewn to the peritoneum and two drainage tubes were inserted, one in the right loin and the other in the anterior wound, most of which was closed by silkworm-gut stitches.

The patient recovered from the shock of the operation fairly well, but two days later an interesting complication occurred, namely, acute dilatation of the stomach, which bulged forwards and downwards nearly to the left iliac crest. By means of washing out and the administration of strychnine this dilatation subsided, and for three weeks she went on well. The wound required daily attention. The temperature was normal during this time, but after the fourth week it was of the hectic type, without anything being found to account for it. The biliary fistula remained. She was ultimately sent to Felixstowe, where she remained some months. The hectic temperature continued, and I heard in November, 1904, that there was evidence of extensive recurrence of cancer in the liver.

At the time of operation I was in doubt whether it was worth while to attempt excision, and the sequel confirms the view that such an operation is hardly justifiable. The patient possibly lived a few months longer than she would otherwise have done, but she was an invalid the whole time, requiring the most careful nursing.

It certainly appeared that the affected area of liver was wholly excised, but naturally it is almost impossible to make sure of this. On section it was seen that the nodules shaded off into the hepatic tissue. I do not think the correct diagnosis could have been made before operation; in the more common cases of cancer around the common bile duct it is more easy to do so.

The fact that post-operative acute dilatation of the stomach was recovered from in this case is noteworthy, it being one of the gravest complications that can occur. It should also be noted that whilst the gall bladder was packed with stones and the fundus invaded with cancer, yet there was no cholecystitis, this being contrary to the accepted teaching on the subject.

That the existence of the calculi preceded for long the development of cancer there can be no doubt, and it is reasonable to suppose that their irritation led to its production. Lebert and Cornil and Ranvier, however, hold that the cancer leads to the formation of gall stones. Surely such a view cannot be correct when the fundus alone is the site of the morbid growth. Mr. Roger Williams¹ seems to admit that cancer may be caused by gall stones, though very rarely:

When gall stones and cancer of the gall bladder are concomitant I submit that all the indications point to antecedent morbid conditions of the cystic mucosa, as being the determining factor of these concretions.

What the "antecedent morbid condition" referred to is Mr. Williams does not explain. Presumably it is a form of chronic inflammation such as we see so often in the tongue as a forerunner of epithelioma. In the case just reported the mucous membrane of the gall bladder, except where it was cancerous, was to all appearance healthy, and there was no trace of cholecystitis.

I am able to adduce two other items of evidence which bear on the controversy. The first shows that cancer of the gall bladder fundus may originate independently of any calculi. A man, aged 70, died in my wards at the London Hospital as the result of severe injuries sustained by being run over. In the fundus of his gall bladder (otherwise normal and containing no calculi) was a firm nodule lying in and beneath the mucous membrane. The nodule was solitary, oval, and about one-third of an inch in diameter. For the careful microscopic report I am indebted to our pathologist, Dr. Salaman. "The small swelling consists of tubular and more or less cystic epithelial growths surrounded by strands of muscular and fibrous tissue. Some of these are purely adenomatous, and the entire growth would appear at its origin to have been an adenoma; however, changes have taken place in two directions. The subcolumnar epithelium has grown in some tubules into the lumen and converted them into solid masses of cells, whilst the fibrous external coat remains good. In others they have grown through the connective tissue and are definitely invading the stroma."

This case is of particular interest as being one of the earliest stage of cancer in this region that has been recorded.

The remaining case is one in which gall stones had given rise to typical symptoms for five years in a woman aged 42 years. It resembled so much the case first given that full details are unnecessary. I performed cholecystectomy and removed the calculi, but finding a growth in the fundus of the gall bladder, did not attempt more. She died three days after the operation, and at the *post-mortem* examination an irregular mass of cancer was found growing from the fundus into the liver. The glands in the lesser omentum were also involved: "The mucous membrane of the fundus was greatly thickened, consisting of large open alveoli lined with columnar cells, many of which are vacuolated. In the musculo-fibrous wall of the bladder are several dilated alveoli of similar nature."

It will be noted that calculi had existed in the gall bladder for several years before the growth developed. This case also confirms the grave outlook of any surgical interference in cancer of this region. The only hopeful treatment is to remove the gall stones early, before their irritation has induced cancer.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, December 31st, 1904.

TWO CASES OF SUPPURATION OF GOITRE.*

By THOMAS EVANS, M.D.,
New Quay, Cardiganshire.

In the district in which I have practised for many years simple goitre among women is not uncommon; but I had never seen a case of suppuration of goitre until 1902. However, a second case occurred in my practice within twelve months of the first. The medical brethren nearest me had not seen any such cases. The medical and surgical literature within my reach is also silent with regard to such a complaint. But in the Memoranda of the BRITISH MEDICAL JOURNAL for October 15th, 1904, p. 1005, Dr. Arthur G. Wilkins of Ashton-under-Lyne refers to a case of suppurative goitre in an old man of 74.

CASE I.

Mrs. M. T., aged 54, wife of a master mariner, childless, was in fair

* Communicated to the South Wales and Monmouthshire Branch of the British Medical Association.