CARCINOMA OF THE STOMACH AFTER GASTRO-JEJUNOSTOMY.

BY

SIR GEORGE T. BEATSON, K.C.B., K.B.E.,

M.D. EDIN.,

CONSULTING SURGEON, GLASGOW WESTERN INFIRMARY; SENIOR SURGEON, GLASGOW ROYAL CANCER HOSPITAL.

A good deal of discussion has recently taken place as to the liability of a simple gastric ulcer to become carcinomatous, and there is considerable difference of opinion as to the frequency of such an occurrence. The appearance of carcinoma in the case of a long-standing gastric ulcer would be in keeping with the now widely accepted fact that it is a frequent sequel of irritation in any form, and would be a development that might quite well be regarded as both possible and probable. In the same way, considering the frequency with which gastric lesions are now treated by gastro-enterostomy, followed as this operation must be by the presence of a certain amount of scar tissue (also a favourable nidus for the cancer process), it would not be surprising if such an artificial opening might, in the course of years, become the seat of carcinoma. Relative to these two points the following case, which was under my care at the Glasgow Royal Cancer Hospital, is of interest, and, I think, has some bearing.

A car-conductor, aged 52, married, was admitted on November 21st, 1921, suffering from a tumour of the stomach. The letter sent with the patient gave the information that he had been operated upon by Sir Kennedy Dalziel at the Western Infirmary, Glasgow, in 1910, when gastro-enterostomy was performed. It further stated that in 1920 he was readmitted there with a recurrence of gastric disturbance, and laparotomy was performed, when it was found that there was a carcinomatous growth of the lesser curvature, stretching down the posterior wall and involving the new opening of the gastro-enterostomy. There were also secondary growths in the peritoneum beneath the left ribs. Under these conditions nothing further was done, and the wound was closed.

When admitted to the Glasgow Royal Cancer Hospital he was in a very anæmic and emaciated condition, weighing only 6 st. 11 lb., his height being 5 ft. 2 in. The gastric tumour could be felt on palpation. The clinical history of the case while in the Cancer Hospital was somewhat uneventful, but he had periodic attacks of gastric disturbance, with some vomiting and, at times, diarrhoea. The matter vomited was chiefly the food that he had taken. He got gradually weaker, and died on April 8th, 1922.

Post-mortem Examination.

The report of the *post-mortem* examination stated that: "The body was that of an extremely emaciated man. There was a central abdominal scar from an old operation. The left leg was very oedematous, and the right was also swollen, though to a lesser degree. *Thorax*: The lungs were oedematous and congested. *Heart*: The myocardium showed brown atrophy. There was atheroma of the coronary arteries and of the aorta. *Abdomen*: A firm mass was present, occupying the pyloric part of the stomach. This organ was opened along the greater curvature. An extensive malignant ulcer with raised, thickened, and rounded edges, was found at the pylorus, stopping short at the pyloric sphincter. This ulcer was about four inches in diameter, with irregular eroded base. The middle finger could be passed through the sphincter into the duodenum. A posterior gastro-enterostomy had been performed. Its stoma was represented by a conical ulcerated depression, one and a quarter inches in diameter and about the same depth. The edges were thickened and continuous with the ulcer margins. The stoma presented the same appearance as the ulcer, and was evidently malignant. A probe could not be passed into the distal part of the attached jejunum, but the proximal side admitted the forefinger. The liver was fatty, slightly enlarged, and showed numerous nodules throughout. There was thickening and shortening of the omentum near the pylorus. The mesenteric glands were enlarged. There was nothing of note in the kidneys, and the spleen was small and soft. A thrombus was present in both iliac veins, but not extending into the inferior vena cava. The microscopic section showed a typical adenocarcinoma of the stomach, with invasion of the mesenteric lymph glands and secondary nodules in the liver. The edges of the gastro-enterostomy opening were also found to be malignant and of the gastric type.

From the report of the *post-mortem* examination it is evident that the malignant disease was of gastric origin, and the condition of the gastro-enterostomy wound—namely, that a probe could not be passed into the distal part of the jejunum while the proximal side admitted the forefinger—indicated that the food must have passed more or less in a vicious circle through the duodenum and back into the stomach.

It is unfortunate that there is no record in the Western

Infirmary journals to show the reason for the operation of gastro-enterostomy done twelve years previous to the patient's death, nor is there any note made of the presence of any ulcer. An interview with the patient's daughter gave the following information: At the beginning of his illness her father complained of diarrhoea, which continued for a long time, and in consequence of which he was sent to the Western Infirmary, where, as noted, an operation was performed, she states, for dilated stomach. Decided improvement in his health followed the operation, and the diarrhoea ceased, so that he was able to go back to work after having been off duty for a year subsequent to the operation. He seems to have been able to continue his work for eight or nine years, when he began to become emaciated. He was again sent to the Western Infirmary, where the abdomen was opened a second time, and the condition already described was found. Her mother was told that at the seat of trouble there was a tumour almost up against the new passage, and that practically nothing further could be done. Shortly before his admission to the Glasgow Royal Cancer Hospital some vomiting showed itself, but there was no history of hæmorrhage at any time. The paleness present on his admission to the hospital was a matter of recent date, as previously he had a fresh colour. He was a heavy smoker, but temperate as regards alcohol.

In view of the above statement of the patient's daughter it would be a fair inference that the gastro-enterostomy was done for a dilated stomach, probably connected with some ulceration in the vicinity of the pylorus and leading to some obstruction at that orifice, necessitating the gastro-enterostomy operation. If this be the case, in view of what was found at the *post-mortem* examination two surmises are possible: one is to assume, as I have done, the existence of an ulcer which in time became malignant and extended into the gastro-enterostomy wound; the other, that the malignant action commenced in the wall of the gastro-enterostomy wound on the gastric side, and, by extension, involved the old ulcer. The balance of weight of opinion is probably in favour of the former extension, but it does not put out of court entirely the possibility of the latter.

In the *Lancet* of June 13th, 1925, Mr. Sherren is quoted as having stated that he had never seen carcinoma develop after gastro-jejunostomy. I learn from Mr. Sherren, however, that I had not correctly interpreted his statement, and that he did not say that he had never seen carcinoma develop after gastro-jejunostomy, but that he had never seen the late development of carcinoma after gastro-jejunostomy had been carried out for a small mobile ulcer on the lesser curvature. How far the above case has a bearing on the latter point one cannot say with certainty, but I think that the case has some value in connexion with the question of ulceration of the stomach being a forerunner of carcinoma, and I must leave other surgeons to draw their own conclusions as to its being an instance of a gastro-enterostomy opening becoming the seat of cancer.

THE POSITION OF THE STOMACH IN HEALTHY BRITISH AND AMERICAN SUBJECTS.

BY

ROBERT ORTON MOODY, M.D.,

ASSOCIATE PROFESSOR OF ANATOMY IN THE UNIVERSITY OF CALIFORNIA;
HONORARY DEMONSTRATOR IN RADIOLOGY AT UNIVERSITY COLLEGE, LONDON.

A STUDY of the position of the abdominal viscera is being carried on at the x-ray laboratory of the department of anatomy at University College, London, for the purpose of determining the normal positions and their range of variation in healthy living subjects. Radiographs have been taken of 53 men and 20 women. This is too small a number from which to draw definite conclusions; but the results warrant the interesting, though at present tentative, suggestion that in the British the stomach occupies a lower position than it does in Americans.

With the subjects in the standing position, after a meal of two ounces of barium sulphate in two cups of malted milk, the lowest part of the greater curvature of the stomach was found below the interiliac plane, a line drawn

between the highest points of the iliac crests, in 80 per cent. of the men and in 95 per cent. of the women.

At the University of California a similar study of 1,000 healthy young adults—an equal number of men and women—showed that the lowest part of the greater curvature of the stomach was found below the interiliac plane in only 75 per cent. of the men and in 88 per cent. of the women examined in London.

In the English, more often than in the American, the lowest part of the greater curvature of the stomach is found more than two inches below the interiliac line. It is found as low as this in 31 per cent. of the English men and in 57 per cent. of the English women, and in only 43 per cent. of the American women.

The position of the lowest part of the greater curvature of the practically empty stomach has also been recorded. With only one swallow of the barium mixture in the stomach this is found to be below the interiliac line in 50 per cent. of the men and 85 per cent. of the women.

This preliminary report is presented in the hope that it will interest many to volunteer to have their radiographs taken at University College and thus help to determine the truth of the tentative conclusion that in the English the normal position of the viscera is not quite identical with that of Americans. The discussion of the significance of this difference is deferred until a larger series is available as a basis for comparison.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

OCCCLUSION OF THE RECEPTACULUM CHYLI: PROGRESSIVE EMACIATION: DEATH.

NOTICES occur from time to time of cases where progressive emaciation in adolescents or young adults ultimately results in death, and at the *post-mortem* examination no cause of death is discoverable. Such a case has recently been reported where a girl aged 16 years began wasting away, and when she died three years later weighed only 3 st. 13 lb.

This case recalls one which occurred in the wards of the late Professor Greenfield at Edinburgh in the early eighties of the last century. A young man was emaciating rapidly and no cause whatever could be found. In a clinical lecture Professor Greenfield remarked that the only thing he could think of to explain such a case was tuberculous obstruction of the receptaculum chyli of the thoracic duct. The *post-mortem* findings were reported to be negative, as no cause of death could be found. I could not be present till the *post-mortem* examination was concluded, but received permission to dissect out the receptaculum chyli, and found its lumen completely occluded by inflammatory tissue apparently of a tuberculous nature. The thoracic duct was not occluded.

Professor Greenfield's diagnosis of emaciation due to interference with the passage of the lymph stream from the intestines to the superior vena cava was therefore justified, and the girl above alluded to may have been a similar case, as it is not likely that an ordinary examination would have included a dissection of the receptaculum chyli.

T. STACEY WILSON, M.D. Edin., F.R.C.P.,
Consulting Physician, Birmingham General Hospital.

CONGENITAL PACHYDERMATOCELE.

THE following case is, I think, worthy of being recorded by reason of its rarity.

A female infant, aged 3 weeks, was admitted to hospital with a congenital overgrowth on the left side of the head and face. The father and mother are healthy. There had been no untoward incident in the pregnancy, but labour was very difficult and instrumental. The child weighed at birth 8½ lb., was rather large, and did not take food well. On admission it was in a low state and there was a large mass hanging down from the place where the left ear should have been. As the illustration shows, the mass was convoluted and fissured, and a serous discharge was exuding from

it; this discharge had a peculiar and disagreeable odour. Extending from both sides of the tumour to half-way over the left cheek in front, to the occipital protuberance behind, to the parietal eminence above, and the angle of the jaw below, was a patch of raised convoluted tissue, the surface of which was irregular and thrown into folds. These folds somewhat overlapped each other and extended, more or less, from side to side. They increased in depth and width from above downwards. In the middle of the pendent mass there was a fissure, 1 inch deep and 2½ inches wide. Outside this patch, and extending to the middle of the nose and half-way down the neck, was a peculiar creasing of the skin, slightly elevated above the normal level, which was practically dry. The nose was of the *rétroussé* type and slightly deformed. Another abnormality was the presence of a tooth in the middle of the upper jaw simulating an incisor. When, some weeks later, I excised a small piece of tissue, the mass bled profusely. The pathologist's report on the specimen was as follows: "The section shows an extensive and irregular basal-celled hyperplasia of the epithelium, apparently related to the spaces of an angiomatous portion of the tissue. There is no clear evidence that this is yet a malignant new growth, and it bears more resemblance to a naevus. There is considerable difficulty in interpreting isolated fragments, and if the whole tumour (?) should be excised we recommend that an entire portion should be sectioned. No history is given, but the section is suggestive of Darier's disease."

Mr. D. Greig, conservator of the museum of the Royal College of Surgeons of Edinburgh, on seeing a photograph, suggested that the case might be one of pachydermatocele. The pathologist now appears to agree with Mr. Greig, as he writes:

"The suggestion of Darier's disease was made merely upon the histological appearance of the portions of skin which you sent us. It is quite evident from the photograph that the case was one of that peculiar form of cystic hygroma which has received the name of pachydermia or pachydermatocele. Treves's 'elephant man' was an example of the condition. The proliferated epithelium is not particularly abnormal, though it becomes so secondarily; it is growing in such profusion because of its exaggerated vascular supply. Darier's disease is an instance of the same phenomenon, but the cause of the increased vascularity is usually a small naevus, while only large naevoid growths are called cystic hygromata."

Thus the condition seems to be a congenital pachydermatocele. As the child died soon afterwards no further investigations were possible.

I am indebted to Dr. Horan for permission to publish this case.

Leeds.

M. SOURASKY, M.D., F.R.C.S. Ed.

HYPODERMIC INJECTION OF LUMINAL-SODIUM IN STATUS EPILEPTICUS.

LUMINAL has been successfully employed on a large scale in the treatment of epilepsy, but, so far as I know, there are no records of the employment of the soluble sodium salt by hypodermic injection in status epilepticus, although D'Arcy records a case of chorea insaniens so treated with favourable results. My experience is limited, but the results have impressed me so favourably that I feel impelled to publish them, in the hope that others may take advantage of what I believe to be a simple and efficacious line of treatment.

Case 1.—Female, aged 42. After three fits in half an hour with incomplete recovery between each, 1/2 grain of luminal-sodium was injected hypodermically. After this the fits became less frequent, but continued throughout the night. Early the next morning an injection of 1 grain of luminal-sodium was given; the fits gradually became less frequent and ceased within seventy-five minutes.

Case 2.—Female, aged 39. Half a grain of luminal-sodium was given by hypodermic injection after status epilepticus had existed for about thirty minutes. This dose was repeated after about four hours as there was only slight improvement. The fits ceased soon after the second injection. This patient from time to time has a series of fits in rapid succession without passing into true status epilepticus; 1/2 grain of luminal-sodium subcutaneously will abort these attacks.

Case 3.—Male, aged 21. The patient had forty fits in one hour and was in status epilepticus. A subcutaneous injection of 3 grains of luminal-sodium was followed by immediate cessation of the fits. On another occasion this man had twenty-four fits during the day; he was given 1 grain of luminal-sodium subcutaneously, and had no fits afterwards.

I know of no ill effects from this treatment, even after a dose of 3 grains. Luminal itself is insoluble. Luminal-