CARCINOMA AFTER GASTRO-ENTEROSTOMY.

BY

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THE recent note by Sir George Beatson¹ suggests that the following case is worthy of record. It is of interest in several ways. It demonstrates the importance of a thorough examination of patients claiming compensation for a comparatively trivial accident. It shows the possibility of a simple, unsuspected tumour (chondroma) causing symptoms fitting in with the history of an accident. Finally, the case is recorded as one showing a carcinoma, following a gastro-enterostomy for ulcer, in which all the evidence appears to be against the theory that the ulcer, or ulceration around the gastro-enterostomy, was the cause of the carcinoma.

The patient went to Mr. G. C. E. Simpson, owing to the legal aspect of the case, complaining of pain in the region of the lower ribs on the left side, and stating that through an accident at work, some ten months previously, he had fractured the tenth and eleventh ribs. Two months after the accident he went back to his work, but was unable to do it owing to the pain, which he referred to the site of the fractures. He had not worked since.

While examining the patient a swelling was felt in the epigastrium and he was admitted to hospital for full investigation. Here he admitted that recently he had also suffered from some epigastric fullness about half an hour after food, which gradually passed off in an hour or so. His appetite was good and there was no vomiting, but a slight loss of weight was admitted. He further stated that he was operated upon ten years before for "stomach trouble" at the Royal Infirmary. Professor R. E. Kelly very kindly confirmed that he had performed a gastro-enterostomy upon the man for pyloric stenosis in 1915, the patient then being 43 years of age.

Examination revealed some tenderness of the tenth and eleventh ribs in the mid-axillary line. In the epigastrium and extending to the left a firm, rounded, and slightly tender tumour, which moved with respiration, was palpable. It was dull to percussion, but the dullness was not continuous with that of the liver, which appeared to be normal. A fractional test meal showed no free hydrochloric acid and a very low total acidity; x-ray examination showed a small gastro-enterostomy opening and a very irregular pyloric antrum, and suggested carcinoma ventriculi.

At operation an advanced carcinoma of the pyloric part of the stomach was found. The old gastro-enterostomy stoma was almost closed, and masses of glands were seen in the lesser omentum and constituted part of the mass felt at the clinical examination. The pancreas was surrounded by hard, enlarged glands, but was not itself involved. Anterior gastro-enterostomy was rapidly performed, and through the stomach opening the margin of the growth could be felt reaching just up to the old stoma, but not surrounding it. The patient did well for two days, and then suddenly collapsed, after vomiting once only on the third day, and died.

Several medical men witnessed the autopsy owing to the possibility of a legal action under the Workmen's Compensation Acts. There was definite angling of the tenth costo-cartilaginous junction on both sides, but more marked on the left; it was agreed by all that this could not have had any connexion with the development of the carcinoma. No other origin of the carcinoma was found than the pyloric antrum and pylorus. An old healed gastric ulcer scar was found immediately proximal to the growth on the lesser curve. The old stoma was free from growth except at its distal margin, where it was becoming involved as the tumour spread upwards along the stomach wall. Hard, enlarged glands were present right up to the mediastinum. There was some duodenal ileus. The other organs were normal except that a small innocent chondroma was found in the left pleural cavity opposite the middle of the tenth rib. It was picked off the parietal pleura quite easily, and its nature was confirmed later by microscopical section. Sections of the growth in the stomach showed it to be an adenocarcinoma of the colloid type. By section metastases were proved to be present in all the glands cut, right up to the highest part of the mediastinum.

From a forensic point of view this case shows the wisdom of a systematic examination, even when the patient complains of nothing more than tenderness over the seat of an old fracture. It is possible that, although the chief trouble was cancer, some of the symptoms may have been due to pressure by the chondroma on the intercostal nerves during inspiration.

From the clinical point of view it is more than doubtful if the ulcer had any relation to the carcinoma, as, with Mr. Sherrin,² we feel that, after a period of excellent health for ten years following a posterior gastro-enterostomy for simple ulcer, ulcer-cancer must be rare. The long period of health suggests that the ulcer was simple

and cured; the short recent history of dyspepsia in itself suggests a carcinoma ventriculi not related to ulcer in its etiology.

The pathological evidence also supported this opinion. The growth involved the pyloric antrum distal to an old ulcer scar almost entirely. It extended up to the gastro-enterostomy but did not surround it, only reaching its distal margin. The sections did not in any way suggest a previous ulcer in the malignant tissue, and showed none of the scirrhous type of carcinoma so usual in the ulcer-cancer.^{3 4}

Most cases of carcinoma following ulcer or gastro-enterostomy have been described with a view to showing that the malignant condition has arisen in or from the simple. In this case all the evidence appears to be against this theory; but, while the gastro-enterostomy did not appear to be the seat of malignancy, its physiological effect upon the mucosa of the pyloric antrum and its secretion needs consideration. The pyloric mucosa, after gastro-enterostomy, may have been bathed in a fluid deficient in acid rather than in an hyperacid gastric juice. Just as hyperacidity is frequently associated with ulcer, so is hypoacidity with malignant disease. More evidence may thus be deduced that hypoacidity is one of the contributing causes of carcinoma ventriculi rather than the result of the disease.

Another factor for consideration is the likely presence of adhesions following gastric ulceration. These will tend to limit the mobility of the pyloric antrum, and with an efficient gastro-enterostomy this part of the stomach might be expected to secure a very considerable amount of rest and freedom from irritation, and be less likely to develop malignant changes; but the post-operative hypoacidity would still be present. A large number of surgeons seem to regard gastro-enterostomy as successful in many cases of gastric ulcer, even though in most cases partial gastrectomy by the Polya method or one of its modifications would appear to be the ideal treatment owing to the slight amount of shock in comparison with the extent of the operation.⁵ It may be mentioned here that one of Mr. Simpson's cases, a sleep-walker, got up on the night after operation. He was none the worse, and so was allowed up daily for a short time from the fourth day. He did so well that we are considering allowing a similar procedure in partial gastrectomy cases in future, or at all events commencing to move them considerably earlier than in the past.

In conclusion, in the case here described all the evidence, with the possible exception of the physiological effect of the gastro-enterostomy, is in favour of the carcinoma ventriculi having arisen without any relation to previous ulceration of the stomach or gastro-enterostomy stoma.

I wish to thank Mr. Simpson for allowing me to publish this case and for the help he has given me.

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FATAL HAEMORRHAGE FROM THE LIVER IN AN INFANT FIVE DAYS OLD.

BY

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THE following account of a rather unusual case seems worthy of record.

A male child was born at McHardy Home at 2 a.m. on August 25th, 1924; it weighed 10 lb. The mother, aged 42 years, had had nine previous children, all weighing between 9 and 10 lb. at birth. They were all alive and in good health. The mother appeared to be perfectly healthy, and gave a negative Wassermann reaction. Labour in the present case was normal and easy, and up till the fifth day the child's condition was perfectly satisfactory. It had lost about 10 oz. in weight, and was entirely breast-fed. On the fifth day the child was taken to its mother at 11 a.m., took its feed well, and was brought back to the nursery at 11.30. At 12.15 p.m. it was crying for a time, but nothing abnormal was noted. At 1.45 p.m. it was sleeping and looked well. At 2.15 p.m. it was noticed to be very pale and to be crying feebly. The sister in charge informed me that the child looked as if it had had a severe haemorrhage. On examination

the abdomen was noticed to be rather distended, and an area of dullness was found in the right flank continuous with the liver dullness. No tumour could be palpated. A diagnosis of haemorrhage into the peritoneum was made, possibly from some abdominal tumour. At 3.30 p.m. the child died.

Post-mortem Examination.—This was performed about 9 p.m. on the same day. The thoracic viscera appeared normal, but there was very little blood in the heart or great vessels. Through the right dome of the diaphragm a dark mass could be seen. On opening the abdomen about 6 oz. of free blood and blood clot were found, mostly in the right flank. The right lobe of the liver was dark from blood effused under the capsule, which was stripped up over an area extending above into the diaphragmatic surface of the liver, and in front to within about three-quarters of an inch of the falciform ligament. From a minute perforation on the anterior aspect of the capsule blood was still oozing. On cutting across this area a deep sulcus was seen on the anterior surface, running from above downwards and slightly inwards, about 2½ inches in length. To the right of this a dark area, roughly ovoid, sharply demarcated from the liver, was made out. This area was situated in the right lobe, and extended into the cystal surface in front, and slightly on to the abdominal aspect beneath. It measured about 1½ inches across and about 2½ inches from above downwards. The liver weighed 243.06 grams. The remaining organs appeared normal.

Microscopical Examination of the Liver.—There was congestion and marked fatty change. An area of haemorrhage showed intermingled strands of fibrous tissue and a boundary of compressed haemorrhagic and fibroid liver tissue. This boundary showed in parts a leucocytic infiltration, and throughout the haemorrhagic area the leucocytes appeared to be increased, and were for the most part mononuclear in type. There was some early organization of the blood clot which would correspond with the period—five days—between the birth and death of the infant. The appearances suggested that the haemorrhage occurred at birth from trauma.

There can be very little doubt that the fissure found in the liver was a laceration which probably occurred during birth, although the fact of labour having been easy and normal makes it rather difficult to understand how it occurred. Holt states that small haemorrhages are not uncommon upon the surface of any of the viscera covered by peritoneum, and that intraperitoneal haemorrhages are rare, but may be very extensive, amounting to six or eight ounces, as in the present instance. Small surface haemorrhages of the liver, he states, are not infrequent. Occasionally one of considerable size occurs, separating the peritoneal covering and forming a tumour, generally upon the superior surface. Such lacerations may be produced during labour, and a slow accumulation of blood may take place beneath the capsule, death resulting from rupture into the peritoneal cavity.

RECOVERY FROM TUBAL DEAFNESS CAUSED BY A SARCOMA.

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THE following case is one of removal from the soft palate of a sarcoma which resembled clinically the type of endothelioma found in this situation.¹ As a result of relief of pressure on the Eustachian tube the patient recovered from unilateral deafness of eight years' standing.

An active man engaged in responsible affairs became deaf in the right ear at the age of 35 and noticed a swelling at the back of the mouth three years later. At the age of 40 he could only hear ordinary conversation close to the right ear. The swelling grew larger internally and began to project outwards behind the angle of the jaw. The voice had a nasal intonation, but there was no interference with breathing or swallowing.

The smooth yielding tumour occupied the right side of the soft palate and nasopharynx, the tonsil being displaced medially, and was slightly movable on bimanual palpation. The drumhead of the right ear was indrawn and with the C 256 tuning-fork bone conduction was relatively increased. With the stem of the vibrating fork on the vertex the sound was heard loudly in the right ear; by air conduction C 1024 was heard well, C 128 not at all. The left ear was normal. Systemic examination, including a blood count, revealed nothing abnormal.

Operation.

General anaesthesia was induced with chloroform and continued through a laryngotomy tube. The tumour, which extended deeply into the pterygo-maxillary and submaxillary regions, and was

surrounded with a false capsule, was dissected away. The walls of the cavity were coagulated by diathermy. A week later a tube of radium emanation was placed in the depth of the cavity and another towards the root of the tongue; these were secured in position for twenty-four hours by packing.

On section the tumour proved to be a spindle-celled sarcoma; portions of muscular tissue removed were seen to be invaded.

After-Treatment.

As soon as the sloughs had separated the patient was referred to Dr. William Mitchell for x-ray treatment, and five exposures were given. Three months later the drum was less retracted, and on inspection with Hay's pharyngoscope the Eustachian orifice appeared normal. After one or two inflations with the catheter the hearing for the watch and voice was completely restored. Rinne's test was positive, though air conduction was still a few seconds less in excess of air conduction than on the left side. Four years after the operation there was no sign of recurrence, and the hearing was normal.

Appearance of the Tumour.

What was the pathological condition of the right ear from which the patient recovered so promptly when the patency of the Eustachian tube was restored? In three cases of obliteration of the Eustachian tube by malignant tumours of the nasopharynx Brock found serous exudation into the tympanic cavity and its adnexa, attributable to hydrops *ex vacuo* rather than to inflammation. Karl Beck of Heidelberg, experimenting with dogs, closed the tube with wooden plugs, or, as was found more effective, with the thermo-cautery. After killing the animals, microscopic examination revealed hypertrophy and cellular infiltration of the mucous membrane, some bony thickening, and a sterile exudate containing polymorphs and lymphocytes. According to Habermann² this condition differs from chronic catarrh of the middle ear, in which proliferative changes in the tympanic mucosa are identical with those of hypertrophic rhinitis. In our case, in which closure of the Eustachian tube was probably gradual and possibly intermittent, there were no subjective symptoms of fluid in the tympanic cavity, nor could any fluid exudate be seen through the drum.

Only by the finest discrimination between the forms of chronic deafness can we hope to judge beforehand whether operations on the nose and throat will restore hearing.

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CONGENITAL OCCLUSION OF DUODENUM.

BY

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DR. H. C. CAMERON, in the Lumleian Lectures, delivered last year,¹ discussed in the first lecture vomiting in infancy due to obstruction from developmental defect in the upper alimentary tract. The following case is reported because, as Cameron says, "the diagnosis, supported by a characteristic radiographic appearance, is often not difficult, and because, sometimes at least, we may hope to save life by means of a timely operation following upon early diagnosis." The condition, however, appears to be very rare. Only one case² has been reported in this infirmary, with about 3,500 admissions annually, in nine years.

A male infant, aged 5 days, was admitted to Booth Hall Infirmary, Manchester, on January 15th, 1926. There was a history of vomiting everything taken by the mouth since birth. The patient was the weaker and smaller of uniovular twins and weighed 4½ lb. at birth. The pregnancy and labour were normal and the parents and their children were healthy.

On examination the heart and lungs were found normal. The tongue and pharynx were red and congested. The abdomen was not distended, but some fullness was seen and felt in the epigastric region. No intestinal peristaltic waves were seen; there was no jaundice. The anus and rectum were normal. X-ray examination of the stomach was not done.