Medical Memoranda

Adenocarcinoma of the Appendix

Since the publication in 1906 of Rolleston and Jones's review of "Primary Malignant Disease of the Vermiform Appendix" there have been numerous case reports and reviews of the subject. Rolleston and Jones clearly differentiated between "columnar-celled carcinoma, like that met with in the large intestine," and "spheroidal-celled carcinoma." It was not until Gosset and Masson (1914) and Masson (1928) brought into prominence the argentaffin-staining properties of the spheroidal-celled tumours that a distinction was generally drawn. The term "carcinoid," introduced by Oberndorfer in 1907 to refer to similar tumours of the small intestine, has been generally accepted for these not uncommon yellow argentaffin tumours having their origin in the Kultschitzky cells of the crypts of Lieberkühn. They are all potentially malignant (Willis, 1948), although both primary and metastatic argentaffinomas may grow very slowly.

The other group of carcinomas of the appendix—the adenocarcinoma "like that met with in the large intestine"—has received much less attention. In reporting two new cases, Clarke and Simonds (1953) reviewed the 31 fully reported cases in the literature, only one of which (Hughes, 1951) was from the United Kingdom. Since this review there has been a report of five cases from London by Nardell (1953).

It is the purpose of this communication to describe a case recently under the care of one of us (G.A.) and to refer more briefly to an example removed by the late Mr. L. R. Braithwaite in 1928 and now in the Pathology Museum of the Leeds School of Medicine.

CASE 1

A married woman aged 47 was admitted to hospital on June 10, 1953, with a diagnosis of appendix abscess. She had suffered abdominal pain, anorexia, nausea, and constipation for eight days before admission. On examination she showed the typical local signs of a walled-off perforated appendix—namely, a moderate-sized tender fixed mass in the right iliac fossa. She was apyrexial and the leucocyte count was 9,300. With rest in bed, restriction of diet, and penicillin and streptomycin she rapidly lost her symptoms and the mass became much smaller. She was discharged home on June 16 with instructions to return to the out-patient department so that she could be readmitted for appendicectomy after six to eight weeks.

She did not return, however, until just before Christmas, at which time she had no symptoms, but there was a small firm mobile non-tender mass in the right iliac fossa. She was readmitted on December 27. A provisional diagnosis of carcinoma of the caecum with secondary appendicular obstruction and perforation was made, but a barium enema examination showed only a smooth round filling defect in the outer wall of the caecum with an intact mucosa.

Laparotomy was performed on January 1, 1954. The previously perforated appendix was lying in a high retro-colic position and was intimately bound to the posterior abdominal wall. After finger separation of these adhesions the right colon was lifted out of the wound, and at the site of the perforation of the appendix a fungating mass of carcinoma was seen within the appendix. Right hemicolectomy was performed and the operation completed by a side-to-side ileo/transverse-colon anastomosis. The patient made a good recovery and was discharged home on January 13. When last seen in May, 1954, she was very well and there was no sign of recurrence.

Dr. D. H. Collins reported: "The appendix is thickened and enlarged to a diameter of 2 cm. and filled with soft

growth. Its distal half is bound tightly to the caecum by invasive growth which is just beginning to ulcerate through the mucosa of the caecum. Histologically this is an adenocarcinoma of the appendix, filling most of the lumen and beginning to invade the attached caecal wall. The gland sectioned shows no growth."

The patient was seen by her own doctor, Dr. Stead, in January, 1956, two years after her operation, and was in good health. She maintained her weight and had no diarrhoea or other symptoms.

CASE 2

A man aged 41 was admitted to hospital on December 31, 1928. His history and physical signs suggested acute appendicitis, and appendicectomy was performed on the same day. The appendix had perforated and was lying in a small abscess. It was removed. On section it showed a mucoid growth filling the lumen of the appendix and invading the wall at one point. There was no dilatation of the organ to suggest a mucocele. Microscopically the growth was a mucoid adenocarcinoma of average grade of malignancy. The patient recovered from the operation, but his further history is not known.

COMMENT

Both these patients presented with signs and symptoms of perforation of the appendix. That this is the common manifestation of adenocarcinomas of the appendix is shown by Clarke and Simonds (1953), who found that the organ had perforated in 13, or nearly half, of the reported cases. In certainly three and possibly all five of Nardell's (1953) cases perforation had occurred.

Pathologically these growths are very similar in every way to those of the colon, and metastases are not infrequent. Owing to the small lumen of the appendix, obstruction occurs early and is the means of calling attention to the lesion. There is little evidence concerning the prognosis of the disease, but local recurrence or peritoneal spread is likely to follow perforation.

We are indebted to Professor R. A. Willis for his help with this report.

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Second Attack of Paratyphoid Fever

Although relapses in enteric infections are fairly common, the occurrence of two well-documented attacks of paratyphoid fever in the same patient within a period of five years is rare enough to merit a note.

FIRST ATTACK

A married woman aged 40 was admitted to hospital on August 24, 1949, for investigation of pyrexia of six days' duration attended by headache, generalized abdominal pain, constipation, painful micturition, and malaise. On admission there was well-marked abdominal tenderness, dullness of cerebra, and sluggish speech, together with a furred tongue. Her temperature was 101° F. (38.3° C.) and pulse 92. The urine showed a trace of albumin and pus, and the white-cell count was 7,700 per c.mm. Otherwise there were no abnormal findings on clinical examination. Under treatment with penicillin and sulphadimidine the pyrexia, abdominal pain, and drowsiness persisted, but on September 2, with the finding of *Salm. paratyphi B* in the faeces,

chloramphenicol was administered in a dosage of 23 g. over nine days. Within four days all the symptoms had subsided, and on October 5 the patient, then fully recovered, was discharged from hospital. (This case was described by Curtin (1949) in his group of paratyphoid fever cases treated with chloramphenicol.)

Further Investigations.—The patient's blood, taken on August 31, was reported to agglutinate *Salm. paratyphi B* H up to 1 in 2,500 and non-specific salmonella up to 1 in 50. It did not agglutinate *Salm. typhi* H and O or *Salm. paratyphi B* O. On September 12 the paratyphoid organisms cultured from the faeces were reported to belong to phage type Taunton. After treatment the patient's stools were reported free from pathogens on September 23 and 30 and on October 3 and 7. On October 13 her serum still agglutinated *Salm. paratyphi B* H 1 in 2,500. The other members of the patient's household—her husband, son, and daughter—submitted samples of faeces on October 3, and these were reported free from pathogens. As the patient was the only case of paratyphoid fever due to phage type Taunton bacilli in the district in 1949, it was not possible to ascertain the source of infection. In that year the other local cases of paratyphoid fever were due to organisms of phage type 3a and epidemiologically related to a small outbreak in the adjoining areas of Hebburn and Jarrow.

SECOND ATTACK

On June 24, 1954, the patient, who had been quite healthy since the previous illness, again became ill with rigors, headache, pain in the back, and painful micturition. Next day she suffered from diarrhoea and vomiting, which continued until June 28, when she was sent to hospital for investigation. On admission the patient, now aged 45, complained of headache and difficulty in opening her eyes and resented any movement of her neck. Her tongue was coated. There was slight distension of the abdomen together with generalized tenderness, but the spleen was not enlarged. Although there was a slight dry cough, chest examination revealed no abnormality. Over the lower half of the abdomen there were several rose-red papules. The temperature was 102.4° F. (39.1° C.) and pulse 100. The white-cell count was 6,000, and the cerebrospinal fluid, the urine, and a chest skiagram showed no abnormalities. The patient was put on a course of 14 g. of chloramphenicol. The stools taken after admission were reported to contain *Salm. paratyphi B* on July 2, by which day she was much improved, the temperature had resumed the normal level, and the papular rash had faded. Subsequently progress was interrupted and she was discharged on July 12, still excreting the organism in the faeces.

Further Investigations.—The organisms found in the patient's faeces of June 29 were reported on July 15 to belong to the phage type Taunton. A sample of her blood taken on July 5 agglutinated the standard suspensions of *Salm. paratyphi B* H in a dilution of 1 in 5,000, *Salm. paratyphi B* O in a dilution of 1 in 125, and non-specific salmonella H in a dilution of 1 in 25. Tested against the patient's own organisms, the blood agglutinated these in H suspension up to 1 in 2,500 and in O suspension up to 1 in 125. On July 26 the patient's blood, retested, agglutinated standard *Salm. paratyphi B* in H suspension in 1 in 2,500 dilution and in O suspension 1 in 50. Against her own organisms the agglutination titre was 1 in 2,500 H and 1 in 25 O. The patient's contacts—her husband and their two children—once again submitted samples of faeces, which were reported on July 10 to be free from pathogens.

In this second attack the patient was again an isolated case of paratyphoid fever, but she volunteered the information for the first time that during the period before each of her attacks she had been helping to care for a neighbouring old lady, Mrs. X, who lived alone. In June, 1949, Mrs. X, then 80 years old, had an attack of diarrhoea with incontinence, during which she was bathed by the patient. Mrs. X was admitted to a geriatric ward of another hospital on June 20, 1949, with low-grade pyrexia and in a drowsy and

stuporous condition. The pyrexia continued for 10 days, and she recovered to be discharged on July 20, 1954. Her faeces were not examined at that time. Since Mrs. X's illness the patient had given regular assistance two or three times a day to her neighbour, whose faeces were therefore submitted to the laboratory, with the result that they were reported on July 22, 1954, to contain *Salm. paratyphi B*, later confirmed as of phage type Taunton. Mrs. X had no recent complaint of illness, and her general state of health was that appropriate to her age.

I am indebted to Dr. R. Norton for the bacteriological and serological findings quoted in this case and to Dr. E. S. Anderson for the phage-typing of the organisms.

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Abdominal Apoplexy due to Spontaneous Rupture of Right Gastric Artery

Spontaneous intraperitoneal haemorrhage in the male is a rare condition, and for this to occur without any demonstrable pre-existing pathological condition is extremely unusual. Brewer and Marcus (1948) reviewed the literature, and succeeded in collecting 28 cases, in most of which hypertension was present. In 10 cases, including their own, no bleeding-point could be found, and the commonest known site of bleeding was the left gastric artery, which was responsible for three cases. Only one case of spontaneous haemorrhage from the right gastric artery appears to have reached the literature, and this was in a known hypertensive. The following case, therefore, of massive spontaneous haemorrhage from rupture of the right gastric artery in a man in whom no other pathological condition could be found may, I think, be regarded as unique.

CASE REPORT

A man aged 59 was admitted to hospital at 6.15 p.m. on February 3, 1955. His health had always been good, until one hour before his admission, when he had suddenly had excruciating pain in his left abdomen while quietly changing in his hotel. The pain increased, and on admission he was obviously shocked and in great pain, and on examination was found to have a tender, rigid abdomen, with shifting dullness in the left flank.

He was taken to the theatre and the abdomen opened by a left paramedian incision. A large quantity of blood filled the peritoneal cavity, and as this was being removed a rapid search was made for the bleeding-point. The more usual sites gave no answer, and, as his condition was rapidly deteriorating despite a transfusion, and his pulse had become imperceptible, one began to despair. The blood seemed to be coming from the upper abdomen, and the idea then occurred of gripping the free edge of the lesser omentum. This was immediately successful, and the blood no longer welled up. While keeping one's fingers in this position the abdomen was emptied of blood, and when the grip was then relaxed a spurt of blood was seen to come from the right gastric artery, about 1 in. (2.5 cm.) from the pylorus. The vessel was clamped and the ruptured segment removed for section. The abdomen was closed.

Post-operative progress was completely uneventful, and the patient left hospital on February 19. He was not hypertensive, no other abnormality could be found, and the histological report on the segment of vessel stated that the rupture had occurred in what appeared to be an otherwise perfectly normal vessel.

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