Slight exophthalmos was present. On December 7th, 1932, five-sixths of his capacious stomach and a large cluster of lymph glands, one of which was the size of a walnut, were removed. Inspection of the mucosal aspect of the resected portion showed four ulcer craters along the lesser curve, varying in diameter from about one to two centimetres; closer examination revealed two scars of former ulcers. The open end of the duodenum was closed, and the jejunum joined to the residue of the stomach, after the method of Polya. Healing was by first intention. He now looks well, eats a suitable diet, and remains free from all gastric symptoms. His weight was steadily increasing on May 10th, 1933.

COMMENTARY

Owing to the infrequent occurrence of multiple gastric ulcers there is a paucity of literature on the subject, but I have extracted a few illuminating facts, which are incorporated in the following observations.

Clinical: The history and findings of my case were those of an ordinary solitary peptic ulcer, and were in no way commensurate with the multiplicity of the lesions. This corroborates the evidence of Judd and Proctor¹ in a series of cases recently reported from the Mayo Clinic. *Radio-logy*: After an opaque meal there were visible three excrescences on the stomach shadow near the distal end of the lesser curvature (see Special Plate). These indications of ulcer craters are seen to correspond to the defects in the lining of the ablated organ. For this invaluable evidence I have to thank Dr. Mayes. It is highly interesting and significant to note, from Judd and Proctor's report, that in only two cases of their series did the x-ray examination reveal definitely two ulcers in the stomach. *Morbid anatomy*: The outstanding interest of the case of E. B. lies in the great rarity of such multiplicity of chronic ulcers as his stomach exhibits. Four craters are obvious, and small scars of former ulcers are visible on careful inspection. They lie, as in a chain, along the lesser curvature (see Special Plate). The occurrence of acute perforation was a not unlikely complication to expect in the case, for the stomach was not adherent. The exceptional swelling of the adjacent lymph glands in the lesser omentum bore eloquent testimony to the intense activity of the pathological process. Mr. A. D. Fraser has kindly verified the simple character of the condition in his histological report: "Simple peptic ulcers—no evidence of malignancy."

Number of Ulcers: Judd and Proctor analysed 1,475 cases of gastric ulcer operated on in the Mayo Clinic from 1914 to 1924. Of this total there were eighty-seven with two or more ulcerations in the stomach—that is, 6 per cent. Only about fifteen times in the vast array of nearly 1,500 cases were more than three ulcers present. Portis and Portis² quote Fenwick's search of post-mortem records, in which he found 867 cases of two or more ulcers reported in 19.5 per cent., four or more ulcers in thirty-seven cases—that is, 4.2 per cent. These were all cases with active or open ulcers. A comparison of these figures suggests that the actual proportion of multiple to solitary gastric ulcers is well over the number met with surgically. The disparity is, perhaps, due to the different social categories from which the two sets of figures were collected. The Mayo Clinic draws its patients from a class which takes earlier and more notice of disease. *Site*: The situation of the lesions in the multiple as in the solitary ulcers reveals a predilection for the lesser curvature. This is demonstrated remarkably in the specimen here reported. *Associated disease*: The association of syphilis with multiple ulceration is slight, according to Judd and Proctor's findings. They report only six such cases in their series. The remainder of their cases were of a simple nature, apart from two. Cancer was definitely present among the ulcers of two cases, and was indefinitely diagnosed in three others. *Liability to*

acute perforation: Instances of this complication figure relatively more prominently in the literature. Perhaps it is the more dramatic character of the symptoms and pathology of the acutely perforating ulcers that explains this distinction. Julian Taylor³ reported perforation of peptic ulcers; Skemp and Skemp⁴ and Drury⁵ report multiple perforated gastric ulcers, as do Masson and Simon.⁶

In the present case such diffuse ulceration, with the dangers of blood vessel erosion, perforation, and malignant transformation multiplied proportionately, justified surgical measures of corresponding magnitude. The extensive resection which was undertaken has been well justified by the sequel. Once again the experience of this case corresponds with the main findings of Judd and Proctor, who report that some form of resection was performed in the majority of their series of cases. The hospital mortality was notably low—3.4 per cent.

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CHRONIC PERFORATING ULCERATION OF THE FOOT

OBSERVATIONS ON A CASE TREATED BY LUMBAR SYMPATHECTOMY

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(With Special Plate)

W. Mayo¹ has pointed out that negative and positive results are necessary in assessing the value of any therapeutic measure, and nowhere is this better illustrated than in the surgery of the sympathetic nervous system. The observations made in the following case may therefore be of interest.

C. W., a male aged 56, was admitted to hospital in March, 1932, with ulcers of the left foot, which had been present for a period of three years. He had been treated on many occasions, but the ulcers were constantly breaking down. He had been under treatment in this hospital two years previously, and, with rest in bed and palliative measures over the long period of six months, the ulcers healed, but broke down again on the resumption of activity. The big toe of the left foot had been amputated some years before, for a condition the nature of which could not be definitely ascertained, but which appeared to be a hallux valgus with ulceration. On examination three perforating ulcers were found on the sole of the left foot, two situated anteriorly on the under aspect of the fourth and fifth metatarso-phalangeal joints, and one on the under aspect of the heel (see Special Plate, Fig. 1). The latter was more superficial, but the other two were about three-eighths and one-quarter of an inch deep respectively, and surrounded by a ring of heaped-up white skin. The margins were hard, and the callosity extended for about an inch around the ulcers. The discharge from the ulcers was thin and watery. Although the ulcers were deep, x rays revealed no abnormality in the underlying bones. The arteries of the limb appeared normal. The Wassermann reaction was

negative, and general examination, including a careful investigation of the nervous system, was also negative. Each foot showed a slight degree of pes cavus. There was no clinical or x-ray evidence of spina bifida occulta, or of any other lesion that might have a bearing on the aetiology.

Palliative treatment was adopted for four weeks, with complete rest in bed. There was no improvement in the local condition. The patient's incapacity for work, owing to constant attention to the ulcers, made other treatment desirable. Periarterial sympathectomy of the femoral artery having proved of uncertain value in other lesions, it was thought that neurectomy of the left lumbar sympathetic, with consequent permanent vaso-dilatation (or at least vaso-dilatation of prolonged duration), would be likely to lead to some nutritional improvement with permanent healing. The operation was performed on April 23rd, 1932. The left lumbar chain was exposed through the peritoneal cavity, and the portion of the sympathetic cord from just below the fourth ganglion, up to and including the second lumbar ganglion, was removed.

Following operation the usual effects were observed in the affected limb—increased temperature, increased warmth, absence of sweating, and dryness of the skin. An improvement in the appearance of the ulcers was noted six days after the operation. The surrounding skin appeared less hard, and the discharge from the ulcers was definitely increased, although it was still thin and watery. On May 20th, about four weeks after the operation, the ulcers were much smaller (see Special Plate, Fig. 2), and one week later almost healed. Healing was complete six weeks after the operation (see Special Plate, Fig. 3). The healed areas became firmer, and remained healed for a period of two months, when both an-

terior ulcers again broke down. Four days after operation the patient complained of an induration which he felt in the glans penis. This had not been noticed by the patient before operation. Examination showed an indurated area on the right side of the glans the size of a threepenny piece. The area was not ulcerated. Two months later the indurated area on the penis had become ulcerated. The lesion suggested a syphilitic origin, either a primary or a recurrent chancre, but Wassermann tests, before and after a provocative dose of N.A.B., were negative. A section of the edge of the ulcer was taken, and microscopical examination revealed the appearance of a typical squamous carcinoma (see Special Plate, Fig. 4).

COMMENTARY

From these observations it will be seen that, while healing was rapid after the improvement in the circulation to the foot, the vascular changes, although persisting, were not sufficient to maintain healing. In this type of ulceration there is some factor at work which causes repeated breakdown, despite even the maximum effects that can be produced by sympathetic denervation. Although the onset of carcinoma in this case must at present be regarded as a coincidence, it may be noted in view of the increasing number of operations performed on the sympathetic nervous system. The surgery of this system is still in its infancy, and any unusual feature is worthy of record.

REFERENCE

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Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

A CASE OF DIAPHRAGMATIC HERNIA

(With Special Plate)

In view of the unusual position of the hernial orifice the following case appears to be worth recording.

A male child, aged 2 months, was attending the orthopaedic out-patient department of the Croydon General Hospital in December, 1932, on account of a talipes equino-varus. While waiting to be seen the mother fed it, and, soon after, it had a convulsion and ceased breathing. After artificial respiration it recovered, and was admitted to the hospital. The mother gave a history of similar attacks before, which had been less severe. On examination the child looked extremely ill. Respiration was laboured, and about 40 a minute; the temperature was 98.2° F., the pulse feeble at 160. The apex beat was in the anterior axillary line, but little else could be made out, as any movement of the child seriously embarrassed respiration. It died twenty-four hours later, no diagnosis having been made. A post-mortem examination revealed the following condition. The peritoneal cavity was almost entirely occupied by a large liver and a greatly distended stomach. Save for six inches of jejunum, all the small intestine, caecum, and ascending and transverse colon had herniated through the right side of the diaphragm. The intestine returned to the abdomen near the splenic flexure. Only a small portion of the right lung was visible at the apex, the heart was displaced well over to the left, and only a small portion of the left lung could be seen. No definite peritoneal sac could be seen round the hernial contents. The case appeared so interesting that a flash-light photograph was taken before the viscera were disturbed.

The hernial orifice had apparently resulted from a lack of fusion of the splanchnic mesoderm and the right pleuro-peritoneal fold. Such a hernia is much commoner on the left side, according to the literature on the subject. It is interesting to speculate whether artificial respiration would have further reduced the hernia.

We are indebted to Dr. Genge for permission to publish this case.

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A CASE OF DIAPHRAGMATIC HERNIA

The following case appears to be of sufficient rarity to merit description.

A Somali, male, aged about 25, was admitted to the Burao Hospital on December 25th, 1932, giving the following history. About seven years previously he had had an attack of what he thought was pneumonia. Apart from that he had kept in perfect health until just over a year before admission, when, in a fight, he was struck by a stick on the upper part of the chest. This caused some localized swelling, which subsided in a few days. No history of any wrench or strain could be obtained. There were apparently no further symptoms until a month before admission, when he began to get some colicky pain, and to notice a lump in the abdomen. The bowels were constipated, but there was no vomiting and no urinary symptom.

On admission the patient was a well-nourished young man, and he did not appear to be very ill. The abdomen was flaccid, and on the right side there was a large, hard, freely movable tumour, extending from the right iliac fossa upward to about the level of the umbilicus. Rectal examination and examination of the blood and urine were negative. An enema gave a good result, and did not affect the size of the tumour. No x rays were available. The tumour was thought to be of either caecal or renal origin. Operation was advised, but not regarded as urgent. On December 31st his condition suddenly became worse, and it was obvious that he had a general peritonitis, a tympanitic, immovable, tender abdomen, and a pulse of 130. An enema still gave a good result. Operation was now urged, but refused. The patient died during the night.

Post-mortem examination showed a general peritonitis. The caecum was distended with hard faeces to the size of a small coco-nut, and its anterior wall showed several greyish gangrenous patches, one of which had perforated and caused the peritonitis. Numerous stercoral ulcers were found in the mucous membrane. The ascending colon was distended with hard faeces to the diameter of about two inches. The transverse and descending colons were almost empty. On opening the chest the hepatic flexure was found protruding through the right side of the diaphragm as a small loop, measuring about three inches on its convexity. It was flaccid, healthy, and showed no sign of strangulation. It was contained in a hernial sac of diaphragmatic pleura. There was no peritoneal covering.

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FIG. 1.—Before treatment.

FIG. 2.—Four weeks after sympathectomy.

FIG. 3. Six weeks after sympathectomy.

FIG. 4.—Microscopical section of edge of ulcer, showing appearance of squamous carcinoma.