sought medical advice, but no evidence of perforation was obtained and recovery was once again very rapid. Symptoms of chlorosis such as scanty menstruation, shortness of breath and constipation had been noticed for two years. Other details could not be obtained from the friends and so we come to the history of the fatal illness.

History of Fatal Illness.—Up to April 13th, 1903, the girl had been in very good health and free from all digestive troubles. On this day she performed her ordinary duties as usual up to 1 p.m., these being laundry work, and were somewhat heavy. She then complained of a severe pain in her left side over the hypochondriac area. She had dinner, however, but felt much worse after it, and was given hot gin and water to allay the pain as it was so severe. It was most acute in the stomach—in fact, right over the epigastrium; and she had to take to her bed. The pain as time went on extended to the whole chest and back of the shoulders. It continued to be very severe up to 4.45 p.m., when it became distinctly easier. All night there was intense thirst, and the pain continued, although to a less degree. Drinking made the pain worse during the afternoon only; at night it had but little effect on it one way or the other. During this time there had been no signs of collapse, as far as one could gather from the friends. The next morning, the patient seeming to be no better, a medical man was sent for, although she herself was quite against it, saying she felt better. But she looked very white, and her abdomen was noticed to be somewhat tumid. The pain was then quite localized and in the epigastrium. Suddenly there was an attack of acute pain, and death followed almost immediately at 9.45 a.m. on Tuesday morning—that is, less than twenty-two hours after she was first taken ill.

Post-mortem Phenomena.—On my arrival the patient was quite dead—very pallid, and to all appearances dead as a result of haemorrhage. The abdomen was distended, tympanitic in the upper parts, and dull in the flanks. Liver dullness could not be obtained. The legs were not drawn up. Rigor mortis set in very rapidly. A perforated gastric ulcer was of course inferred, probably with haemorrhage. The necropsy was done the following day. Weather mild. Rigor mortis still present. Some *post-mortem* staining. The body was well nourished. On opening the abdominal cavity it was found to be full of slightly turbid fluid, smelling somewhat acid, and containing currants, milk, and other food material. The quantity was prodigious, amounting to between a gallon and a gallon and a-half. This is comparable to the enormous quantities of fluid expelled in acute gastric dilatation. The peritoneum was slightly injected generally, and especially near the stomach. In the neighbourhood of the pylorus there was a mass of loose flimsy adhesions between the stomach, great omentum, liver, and duodenum. Without in any way disturbing the organs, a large circular perforated ulcer could be detected on the anterior surface of the stomach near the cardiac end, and nearer the lesser curvature than the greater. The perforation freely admitted the index finger, being about five-eighths of an inch in diameter. It had injected slightly uneven edges, although of the typical punched-out appearance. The stomach being carefully turned over, it was found that the cardiac end was fairly free, but that the posterior surface of the stomach was adherent to the peritoneum immediately behind, although the adhesions were not at all firm. On carefully removing the stomach a second perforation was discovered on the posterior surface and immediately opposite the anterior perforation. In size it was about three-eighths of an inch in diameter, and admitted the little finger. It presented the typical appearance, but the edges were more even, and gave the impression of being in the process of healing, and the adhesions posteriorly were firmer than those in front.

The observations, therefore, seem to point to the anterior perforation being subsequent to the posterior. The stomach itself was somewhat enlarged, but the walls were of about the normal thickness, if anything slightly hypertrophied. On careful examination of the interior of the posterior wall a distinct scarring or puckering could be found, indicating a previous ulcer, if not an actual perforation. It showed the radiating puckerings very clearly. The other organs do not call for much description. The liver, kidneys, and spleen were pale and flabby, as a consequence, no doubt, of the chlorosis. The heart was apparently normal. The layers of the right pleura were firmly adherent, especially over the right cupola of the diaphragm. The oesophagus was of abnormally small calibre. In fact, great difficulty was experienced in finding it, although the organs were all systematically removed and examined. Nothing beyond narrowness was found however. The brain and membranes were apparently normal.

REMARKS.

The above notes give the essential features of the case, and I think one is justified in making the following comments on the case:

1. The very sudden and tragic nature of the case. The girl apparently was in the best of health, and died within twenty-four hours of being taken ill of double perforation of the stomach.

2. The absence of any very clear and tangible symptoms of perforation. In reading these notes it must not be forgotten that they were written after a necropsy, and that the girl herself was unwilling to call in a medical man less than two hours before her death.

3. The extremely rare occurrence of a double and practically simultaneous perforating gastric ulcer.

4. Finally, what is to be learnt from a case of this nature? Granted for a moment that a diagnosis of gastric perforation had been made and the anterior perforation been sutured, we should still have had the posterior perforation to consider. True, there were a certain number of adhesions, but in manipulating the organ during the operation these might easily have been torn through and thus leave an untreated perforation. Working, as is usually done, with a limited incision in the abdominal wall, it might easily have been overlooked, and so the operation would probably have failed. Hence it seems that in cases like these the operator should always make sure that there is only one perforation before closing the abdomen.

In this case, however, it seems improbable from the symptoms that so serious a condition as perforation would have been diagnosed. It was unfortunate that the patient was not seen before death, as it is well known how the symptoms get exaggerated after death, and I must admit that I have in no way made less of them in these notes. Does this not suggest that exploratory operations should be done more frequently in doubtful cases? A simple laparotomy carries with it very little risk, and may save a patient's life.

Since writing the above I have done a necropsy for a fellow-practitioner on another case of perforating gastric ulcer. In this case the girl was upon a holiday, and died in less than eighteen hours from the time she was taken ill, without the exhibition of any symptom pointing to perforation.

EXCISION OF A PERFORATED GASTRIC ULCER: RECOVERY.

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THE following case may be of interest from its bearing upon the vexed question whether a perforated ulcer should be excised or simply stitched up:

Mrs. S., aged 32, a very thin, slight woman, was first seen on July 7th, 1902, at 6.15 p.m.

Previous History.—She had been fairly well for some months, but for the last few weeks had suffered from indigestion, with a good deal of pain after food. She had had the same kind of pain for several years on and off, and I had treated her for it some two years previously, but it soon got well and I had not seen her since. On this day she had moved into a new house, and had worked much harder than usual getting things straight. About 4 p.m., having had no food since breakfast, she made some cocoa and sat down to rest, but before drinking any of the cocoa she was suddenly seized with most acute pain "in the stomach," but not definitely localized. As this pain continued in spite of hot applications, I was sent for.

State on Examination—On my arrival she was lying on her right side, curled up with shoulders bent forward and knees drawn up, moaning with pain. The abdomen was tender all over and the abdominal muscles were excessively rigid, but I thought I could detect a little fluid in the peritoneal cavity. The pain was most intense in the right iliac and left hypochondriac regions, but equally severe in both these situations. She had not vomited, but did so whilst I was examining her, the matter brought up being a little mucous brownish fluid (? cocoa), not at all suggestive of blood. She was cold and collapsed, with a quick and very feeble pulse. The bowels had acted that day, menstruation had been quite regular, and there was no hernia. The diagnosis of perforation of a gastric ulcer seemed fairly obvious, though there was a faint possibility of rupture of an early tubal pregnancy, but it was very evident that operation was necessary.

Operation.—The patient was removed to hospital and the operation was begun at 9 p.m. In deference to the opinion of two of my colleagues, who rather inclined to the tubal diagnosis, a small opening was first made below the umbilicus. When the peritoneum was opened

a small quantity of turbid whitish fluid, acid in reaction, escaped, but no blood. A large flat sponge was put into this wound, and two fingers were passed through it up above the umbilicus and cut down upon in the middle line as upon a director, the object being to save every minute possible, and this second opening was enlarged upwards with scissors. The stomach was found to be congested, and flakes of lymph were beginning to form on its anterior surface. Towards the cardiac end the lymph seemed to be thicker, so the stomach was pulled over towards the right and carefully examined, when the perforation was found quite easily. It was high up on the anterior surface, well to the left of the middle line. It was quite circular, three-sixteenth of an inch in diameter very cleanly cut, with sharp edges which were slightly blackened, reminding one very forcibly of the entrance wound of a Mauser bullet. Round the perforation there was great induration and thickening of the stomach wall, but there was no haemorrage. An oval piece of the stomach wall was excised with a scalpel. It included all the coats, and was about an inch long and half an inch wide, with the perforation in its centre. The haemorrhage was trivial. The resulting wound was closed with a single row of fine silk Lembert sutures, particular care being taken to pass sutures well beyond each end of the wound. The whole peritoneal cavity was then most carefully washed out with warm boracic lotion, great care being taken to flush out the pelvis and the fossae near both kidneys. A small amount of food was thus washed out of the peritoneum. The upper wound was completely closed with silkworm gut sutures, and the greater part of the lower one, but a Keith tube was put down into Douglas's pouch at its lower angle, a provisional suture being put in at that spot, to be tied when the tube was removed. The wounds were dressed with cyanide gauze and iodoform. Before leaving the operating table an enema of one pint of hot saline solution with an ounce of brandy was given. The operation lasted 75 minutes, and the pulse was better at the end than at the beginning. The excised piece showed a deep indurated conical ulcer with the perforation a little to one side of its apex.

Progress.—The patient was put to bed surrounded with hot bottles, and was ordered six-hourly enemata of half a pint of beef-tea with 1 oz. of brandy, and nothing by the mouth except tiny sips of water. A ¼ gr. of morphine hypodermically was ordered if restless or in pain. She soon rallied, and only complained of thirst, which was relieved by an enema of a pint of warm water. The lower wound was dressed every six hours at first, and at each dressing any fluid in the Keith tube was sucked up with a syringe. At the first dressing the quantity was 2 oz., but this rapidly diminished, and the frequency of dressing was reduced accordingly. The Keith tube was removed on the fourth day (July 11th) and a smaller rubber tube substituted for it, which was finally removed on the seventh day (July 14th). On this date the stitches of the upper wound were irritating and were all removed, the lower ones being left a few days longer. The bowels were opened by a soap and water enema on July 10th, and after that acted of themselves. Food was first given by the mouth on July 11th, 3 oz. of Benger's food weak and cool being given, and as it caused no pain or discomfort whatever it was continued every four hours alternately with 2 oz. of somatose solution. On July 12th some peptonized milk with barley water was allowed, and food was given at three-hour intervals. On July 13th Brand's essence was added. On July 14th she was advanced to jelly and custard, and on July 18th to plain biscuits and lightly-cooked eggs. On July 21st, the fourteenth day from the operation, she was allowed boiled sole, on the 28th chicken, on August 1st a chop, and on August 6th anything she fancied in reason. After the operation her temperature was erratic, never very high, but always above normal for quite a month. Usually it was 100° or 100.5° at 8 p.m., but on several occasions it was up to 101.5°. There was nothing in the condition of the wounds to account for this, and there was no pain, and repeated examination of the chest and abdomen failed for a long time to find any cause for it, though I suspected empyaema or subdiaphragmatic abscess. At last about August 9th she began to cough and brought up a little thick purulent expectoration, and on August 15th a small patch of dullness with scattered coarse crepitations was discovered low down in the left mid-axillary line. By this time the temperature had dropped, and in a few days the dullness and crepitations entirely disappeared. She got up for the first time on August 19th and left the hospital on September 2nd. At no time after the operation did she have pain or even discomfort after food.

RESULT.

At the date of writing (July 4th, 1903) she can eat and digest any ordinary food without trouble, she has put on weight, and is in better health than she has been for many years, and greatly appreciates the fact that she has no longer to study her diet in any way.

REMARKS.

The interesting point of this case is the entire disappearance of all gastric symptoms after operation. This I believe to be due to the complete excision of the ulcer. Jacobson[1] rather discourages excision on the grounds that "much extra time will be consumed, there may be a good deal of haemorrhage, and the perforation converted into a large gap requiring numerous sutures to close it." These objections may often be sound, but in a case like the present, where the patient was seen soon after perforation took place, where the perforation was easily found, where the stomach was empty, and the ulcer was small, excision certainly seemed to be the right thing. Simple suture of the perforation cannot have any curative effect upon the ulcer, and though the patient might recover more rapidly from the operation itself the gastric pain and discomfort would probably remain unrelieved, and the risk of haemorrhage would be as great as before.

REFERENCE.

1 *Operations of Surgery*, 4th edition, vol. ii, p. 205.

SLEEPING SICKNESS AND TRYPANOSOMIASIS IN A EUROPEAN: DEATH: PRELIMINARY NOTE.

BY SIR PATRICK MANSON, K.C.M.G., M.D., F.R.S.,
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DR. DANIELS, late Superintendent of the London School of Tropical Medicine, and I recorded a case of trypanosoma fever in the BRITISH MEDICAL JOURNAL of May 30th of this year. At that date the patient had left hospital for some time, but I occasionally heard of her progress. About two months ago suspicious drowsiness was reported. This gradually became more pronounced and she died with marked symptoms of sleeping sickness on November 26th, two years and three months after the presumed date of infection. At the necropsy and subsequent histological examination of the brain unequivocal evidence of sleeping sickness was obtained.

Considering that this is the first well-authenticated case of sleeping sickness in a European, that it affords almost conclusive evidence that the trypanosoma is, to say the least, an important factor in the etiology of this terrible disease, and that the subject is deservedly exciting much interest, I feel justified in offering this preliminary note for publication. In due course further clinical particulars, together with a detailed histological examination of the brain and other tissues by Dr. Mott, F.R.S., and by Dr. Low, of the London School of Tropical Medicine, will be forthcoming.

The leading facts are briefly as follows:

About August 14th, 1901, the patient, the wife of a missionary stationed at Monsembe, Upper Congo, was bitten on the left leg by some animal, presumably a tsetse fly (? *Glossina palpalis*). The bite inflamed, and a fortnight later she had the first of a long series of recurring attacks of fever. About the same time a peculiar patchy and ringed erythematous eruption appeared on the skin; and the spleen and liver enlarged. She returned to England in December, 1901. In May, 1902, she had an attack of phlebitis in the left leg. On October 3rd, 1902, I saw her for the first time and diagnosed trypanosomiasis, a diagnosis subsequently confirmed by Dr. Daniels, who after long search found trypanosomes in her blood. She was in the tropical wards of the London School of Tropical Medicine for about five months. A number of futile attempts were made by arsenic, methylene blue, horse serum, and other means to destroy the trypanosomes. She left the hospital on March 27th.

On leaving hospital she went to the seaside and improved considerably. When again I saw her on May 5th, 1903, she seemed to be in fairly good health, bright, and able to walk about, taking an active part in conversation, free from fever, and apparently much improved, although the erythema and parasites persisted. She then went to Cromer; the weather there was cold and raw, and, she thought, had a prejudicial effect on her health. The attacks of fever became more frequent and severe, and her general condition rapidly deteriorated. She returned to her home at Bristol feeling weak and ill. About the middle of October, although able to get out of bed and walk from one room to another, her friends noticed for the first time a tendency to drowsiness. On this being reported, Dr. Low and I went to Bristol to see her. She was in bed, extremely weak, very much wasted, with a rapid pulse, which she had had all along, and some fever; the ringed erythema was still distinct. The trypanosomes were somewhat more numerous in the blood. She was emotional, but could converse for a short time intelligently, only when conversation stopped she would close her eyes and appeared to sleep. Her husband informed us that this soporose condition was somewhat less marked at the time of our visit than a few days before. The knee-jerks and superficial reflexes were present, the sphincters were under control, the pupils reacted normally; there was no tremor, but there was a distinct twitching at the left angle of the mouth. Dr. Low, who had seen a great deal of sleeping sickness in Uganda, would not commit himself to a diagnosis, though we both regarded the case as exceedingly suspicious.