Lastly, it will be the function of such an organisation to insist that special asylums for admittedly dying cases of tuberculosis among the poorer classes should be erected by the local authorities, in the interests both of the dying and the living, and that wisely-conceived preventive measures be adopted by every community.

PERFORATION OF A TYPHOID ULCER : OPERATION : RECOVERY.

BY
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PERFORATION of the intestine in typhoid fever is unfortunately not uncommon, and although there is little doubt that recovery does occasionally, though very rarely, follow, the result in the vast majority of cases is fatal unless surgical aid be sought. No very great measure of success can be expected from operation undertaken under such desperate circumstances. Nevertheless Finney,¹ of Baltimore, has collected 47 undoubted cases of operation with 13 recoveries, a percentage of 27.65.

The diagnosis of perforation in the earliest stage is by no means always easy. This is shown by several published cases which have been operated upon and no perforation found, and by the fact that out of the 47 cases collected by Finney, in 8 a wrong diagnosis had been made. Typhoid perforation was found, but appendicitis or some form of intestinal obstruction had been diagnosed.

By far the most important difficulty in recommending operation is the fact that usually when perforation occurs the patient is prostrated by an acute and exhausting disease, the course of which is not yet terminated. The present case was an unusually favourable one, because the attack had never been very severe, and the patient was not exhausted. The perforation occurred during convalescence after nearly a week's normal temperature. My absence in the country caused an unfortunate delay, but the case shows that even after twenty-two hours or more operation may be undertaken with success. The severe nephritis during convalescence from the operation was very unfortunate, and has much delayed complete recovery. It was probably due to a septic infarction of the kidney, which suppurated and discharged into the pelvis of that organ.

HISTORY.

G. S., aged 27, was admitted on February 15th, 1898. He had not been well for three weeks, and had been in bed six days complaining of pain in the head and limbs, diarrhoea, sickness, sore throat, cough, deafness, and nocturnal delirium. On admission the temperature was 102° F.; there were numerous spots, and the spleen could be felt. There was no albumen in the urine, and his case ran a moderate and uneventful course. There was slight diarrhoea for three days; the highest temperature was 103° F., and the temperature reached normal on March 2nd, being the sixteenth after admission, the twenty-first in bed, and probably the twenty-fifth of the disease. He was kept exclusively upon milk and beef tea until March 2nd, when a beaten-up egg was allowed. On March 4th the temperature rose to 101° F., and was thirty-six hours in subsiding. The pulse had fallen to between 80 and 88 per minute, and he appeared quite convalescent, but no solid food was given for fear of a relapse. On the evening of March 10th, the twenty-ninth day in bed, and probably the thirty-third of the disease, he complained of a sudden pain in the abdomen, but the pulse did not rise above 90, and the temperature remained subnormal. The bowels were moved, and a trace of blood appeared in the motion. There was no sign of collapse. Opium was given by the mouth, and next morning, as the pain continued, a hypodermic injection of morphine. I was out of town, and was unable to see him until twenty-one hours after the sudden onset of the abdominal pain. By that time his pulse had risen to 120, his temperature to 102° F., and it was evident that he had perforation and commencing peritonitis. My surgical colleague, Mr. Anderson, was fortunately within reach, and gives the following account of the operation, which was commenced 22½ hours after the occurrence of the perforation.

OPERATION.

An incision 4 inches long was made in the mid-line below the umbilicus. On opening the peritoneum some gas and feculent matter escaped. The whole of the small intestine was deeply congested and covered with patches of lymph. Examination of the coils within view did not reveal the leakage, so the cæcum was found, the ileum traced from its termination, and the perforation found within 3 feet of it, the opening being about the size of a bean. Its edges were thinned, but not excessively. The loop of bowel was pulled out of the abdomen, and the hole closed by Lembert's sutures of fine silk. The edges of the opening were not pared, and the intestinal walls on either side of it, although thinned by ulceration, were in sufficiently good condition to hold the sutures well. The small intestine was then pulled out loop by loop, wiped with sponges wet with 1 in 2,000 biniodide solution, and replaced, until the whole had in this way been cleansed. The pelvis and loins were treated in the same way. Douching was not employed. The presence of septic peritonitis was well marked over the whole area occupied by the small intestine, and also in the pelvis. The abdominal wound was closed completely; no drain was used.

AFTER-HISTORY.

The urine had been tested twice a week up to the date of the perforation, and always found quite free from albumen. Two days after the operation there was a cloud of albumen, which soon disappeared. Again, on March 27th and April 3rd the urine is recorded as quite free from albumen. On April 4th the temperature, which had been normal for a fortnight, began to rise to 100° and 101°; and on April 6th the urine was smoky and contained a large amount of blood and albumen. The albumen rapidly diminished, though a few blood and epithelial casts were found. The temperature returned to normal, and he appeared to be going on well until April 23rd, when the temperature rapidly rose to 105.2° and the quantity of blood and albumen again increased. By May 3rd the temperature was again normal, casts were very rarely found, but about one ounce of pus was discharged in the urine daily. At this date (June 8th) the albumen is very slight in amount, and is fully accounted for by about 1 drachm of pus which is still passed. The quantity of urine is 60 to 80 ounces daily, and the specific gravity 1015. The patient is on meat diet, sitting up, and gaining flesh. Had it not been for the unfortunate renal complication he would have been out long ago. The wound has been soundly healed for several weeks.

REFERENCE.

¹ *Annals of Surgery*, 1897, p. 239.

ON FURTHER EXPERIENCES OF DANGERS CONNECTED WITH RESPIRATION AND THEIR AVOIDANCE;

WITH SPECIAL REFERENCE TO ANÆSTHESIA, HÆMOPTYSIS,
DROWNING, APOPLEXY, AND ALL PARALYSED
AND UNCONSCIOUS CONDITIONS.

By R. L. BOWLES, M.D., F.R.C.P.

THE unconscious state which most commonly presents itself to us as coma implies loss of feeling as well as of consciousness, and a general paresis or loss of muscular sense and power. All mental and bodily powers are more or less in abeyance, and only those final organic forces, circulation and respiration, remain in action, whilst even they are then depending upon but a central spark of life to sustain their functions.

In the treatment of it, when life is threatened, it matters little which gives way first, respiration or circulation; our duty is, clearly, to keep them both in action and to prevent anything coming in the way of their easy, regular, and orderly function. It is to this department of the subject that I now propose to address myself.

For clearness I will remind you of some experimental observations on the dead body, undertaken for the late Dr. Marshall Hall in the years 1855 and 1856 by the now distinguished physician, Dr. Edward Long Fox, of Clifton, the late Mr. Charles Hunter, and myself, with the object of settling some important questions in the management of the appar-