

afterwards to tell me she had a troublesome cough, from catching cold. I prescribed for her, but in a day or two, when she called, she looked very ill, and I ordered her home to bed. The right base was very dull, and fine and medium-sized crepitation was heard; fremitus was increased; respiration feeble; no characteristic pneumonic sputum; in fact, there was none at all. Temperature high; cough constant; respiration hurried; pulse feeble, quick. The rest of the right lung and the left lung did not exhibit any signs of disease. For some days she went on as favourably as could be expected, but one evening, while coughing, a violent pain seized her in the right side, with great dyspnoea. I saw her early next morning, and found her with very anxious and pinched expression, the forehead moist with perspiration, the breathing very difficult and hurried, pulse very rapid and small. The whole of the right chest was tympanitic, resonance reaching down to the very lowest thoracic limit, the pneumonic dullness being quite abrogated; all down the sternum the abnormal percussion-note was found encroaching on the left lung; the side bulged and scarcely moved, and the respiratory sounds were almost inaudible. The breathing in the left lung was exaggerated; the heart was pushed over to the left, the liver downwards. After the first day or two it was evident that pus was collecting, and inspiration was accompanied with a distinct metallic tinkle. There was much pain over the whole side, especially in the axillary and scapular regions. In the lower posterior part of the axillary region there was a remarkable amphoric note; this, with the great acuteness of the pain in that part, led me to believe the point of rupture of the lung was opposite to it. The diagnosis was rupture of the lung with pneumothorax, probably from softening tubercles.

Her state becoming worse and worse, I resolved at the end of a week to tap the chest with the aspirator. Much stinking air and a few ounces of pus were withdrawn, and the patient experienced decided relief. This was only temporary, and in a few days I repeated the operation with a similar result, there being, however, a considerable quantity of pus. The drainage-tube suggested itself, but it was evident that the injury was quite beyond all human skill, and that air would have taken the place of any pus or air thus evacuated, keeping up the same mechanical condition. The matter was gathering again quickly. The dullness produced by its presence did not reach further upwards than the inferior angle of the scapula, but the diaphragm was becoming more and more convex downward, thus enabling a large quantity to collect without much extension of the dullness. The liver was pushed down more and more, and there was much tenderness over it, probably from its extremely congested state. The heart's apex beat in the left axillary region. No pulmonary sounds could be heard, except in the interscapular region. The tinkle was still audible. Some offensive phlegm was expectorated occasionally. There was a peculiar and unpleasant smell about the poor patient. The left lung was working with difficulty. Dilatation of the jugulars and œdema of the feet pointed to the great embarrassment of the circulation. The dyspnoea was most distressing, and the pain severe, unless the patient was under the influence of hypodermic morphia. The asthenia was most marked, and fourteen days after the occurrence of the pneumothorax death ended the most agonising scene perhaps that I have ever witnessed.

The following are the results of the post-mortem examination:—The abdomen was first inspected, and the liver found to be pushed downwards and to the left, reaching to the umbilicus and filling the left hypochondrium. Its upper edge was an inch and a half below the costal margin, and instead of being rounded was flattened, so that the organ resembled a thick wedge. Its anterior margin was somewhat bent backwards, and overlapped by small intestine. The tissue was pale, and the hepatic veins were much distended with blood. There was very slight adhesion between the diaphragm and liver. The right half of the diaphragm bulged to the extent of an inch and a half into the abdomen, below the costal margin. This bulging was of course the cause of the liver's descent. On plunging a scalpel into one of the right intercostal spaces, a large quantity of offensive air escaped from the pleura, and the liver partly returned to its normal position. When the ribs were removed, the right pleura was found to contain about 100 oz. of pus, most putrid, with great shreds of lymph

floating in it. This was ladled out, and the lung discovered compressed against the spine, and about half its original size. It was covered with a layer of purulent lymph, as was also the costal pleura. It was removed with great care, and a large opening found in that part of it corresponding to the situation of the amphoric note mentioned above. The opening would, I should say, in the expanded lung, have been quite equal in diameter to that of half-a-crown. Its edges were ragged, and the cavity with which it communicated would have held a large chesnut. It had no lining membrane. A large bronchial tube communicated with it, directly from the main division of the bronchus. The lower part of the lung was dark-purple, and all parts of it were airless and sank in water. It was studded with largish masses of greyish-yellow tubercle, but the apex was much freer than the other parts, and the masses were much smaller there than elsewhere. The left lung was somewhat collapsed; the upper part somewhat emphysematous; the lower congested. I could not see any tubercle at all in it. The heart was in the position indicated during life; the right cavities being distended. There was no peritoneal fluid. The cervical veins were distended, and there was œdema of the feet.

It is a very remarkable fact that a most minute examination did not reveal the least trace of tubercle in the left lung, and that the apex of the right seemed to be the most free part. When the patient first consulted me she had no cough; and in an examination of the chest, not very minute I must confess, no physical signs of tuberculosis were detected. Besides, the patient gained strength so rapidly, and got so well, as almost to preclude the possibility of its existence. Still it is scarcely open to question that there was latent tubercle in the lung for some time previous to death. But it is very paradoxical that the tubercular process was more advanced in the lower parts of the lung than in the upper. I have not much doubt that the pulmonary attack at the base of the lung set up the softening process which led to the rupture. The perforation seemed to have occurred about the usual spot in such cases. Early as perforation sometimes takes place, it is a striking fact that so large an opening should have been made so shortly after the commencement of the disease. Dr. Walshe states that the largest opening he has seen equalled a fourpenny-piece in diameter. The opening in this case quite equalled the diameter of that of half-a-crown, and special care was taken in the removal of the organ. Of course it would have been impossible for such a cavity to shrink, and be closed. The relief from aspiration was marked, and I believe prolonged life. A third operation was objected to, as was more strongly the use of a drainage-tube. The injection of morphia twice daily was of the greatest comfort to the patient, and is especially to be commended in such a case.

Bath.

A CASE OF INTESTINAL OBSTRUCTION;

TREATMENT BY COLOTOMY.

By JOHN TAYLOR, M.R.C.S.

THE following case illustrates the advantages derivable from colotomy in cases of insuperable intestinal obstruction wherein the obstacle is known to be situated low down in the intestinal tract.

Mrs. S—, aged sixty, who had for many years enjoyed almost uninterrupted good health, and whose family history, so far as could be ascertained, was free from malignant disease, began to suffer in the early part of the present year from symptoms indicating some derangement about her uterus and bowel. Having ceased to menstruate since she was forty years of age, she was taken suddenly with uterine hæmorrhage, which recurred from time to time. In the intervals she had a discharge of a sero-sanguineous character, free from offensive odour. About the same time she began to experience pains both before and after defecation. Her motions were noticed to become smaller and smaller, were flattened, tape-like pieces, unmixed with blood, pus, or mucus; subsequently no solid faecal matter was passed at all, all evacuations being loose, frequent, and attended with much pain. Examination per vaginam and per rectum failed to give any positive evidence of the cause of her suf-

fering. The os uteri was free from disease, and the uterus itself quite mobile. No obstruction nor abnormal condition could be felt in the rectum. Towards the latter end of March a hardness could, when the bowels were fairly empty, be felt on the left side, a little internal to the crest of the ilium. On the 28th of April she was seen by Sir Wm. Gull. At this time a tumour could be distinctly made out, occupying the left iliac fossa. It was about the size of an orange, globular, hard, somewhat nodulated on the surface, and quite movable. The superficial veins coursing over the left side of the abdomen and hip were enlarged. There was no œdema about the ankle. She had not lost much flesh, had a florid complexion, and there was no marked cachexia; but she had night-sweats, and was failing in strength. Sir William believed the tumour to be of a cancerous nature. On the 30th of April all faecal evacuation ceased. Symptoms of complete intestinal occlusion set in. Repeated injections of turpentine and castor oil, and of plain warm water, administered with the stomach-pump tube, only brought away the smallest particles of faecal matter. The tube passed readily to the extent of about six inches, and then seemed to meet with an obstruction. Constant vomiting of a greenish water ensued, which was free from stercoraceous smell. The abdomen was enormously distended, but unevenly so. The transverse colon could be distinctly mapped out, every movement of which was accompanied by distressing pain. The abdominal tenderness was not great, moderate pressure being borne without complaint. The pulse was intermittent, but soft; the tongue coated with a creamy fur. Hypodermic morphia injection alone relieved her.

On May 4th, in consultation with Dr. Henry Harland and Mr. Alexander Newington, it was agreed that no measure short of colotomy was likely to be of any avail in relieving her condition. The nature and prospects of the operation having been explained to the patient and her friends, and their consent freely obtained, she was anaesthetised, and the operation proceeded with. As it was tolerably evident that the obstacle was situated in the sigmoid flexure, and as there was every probability that the descending colon was not implicated in the disease, it was proposed to open the intestine in that situation. A somewhat oblique incision, about five inches long, was made, above and parallel with the crest of the ilium. The intestine having been reached and secured to the skin in the usual way, an opening was made into it. Some gas escaped, with a small quantity of faeces; as soon, however, as she was turned on her back the bed became deluged with liquid faecal matter, to the relief of the distension, and the entire cessation of all acute symptoms. At night two grains of opium and two grains of calomel were given. The following morning she was found to have slept well, was bright and cheerful, with a calm countenance; had not been sick; had taken food well; the abdomen was soft and quite free from tenderness. On the third day after the operation she had retention of urine from atony of the bladder, which soon yielded to stimulants. At the end of the first week some pus formed at the lower or spinal end of the wound. This seemed due to some blood which had become infiltrated into the loose cellular tissue, of that part; it discharged through the lower angle of incision, and the opening soon closed. The entire wound was firmly healed in a fortnight.

It is now more than three months since the operation and Mrs. S.—'s general health is still (August 3rd) tolerably good. She is able to walk about, and does not suffer much pain, notwithstanding the tumour steadily increases in size, and has become adherent to the surrounding structures. There is some prolapse of the intestine which is not the source of any great inconvenience, and can be restrained by a plug constructed by Mr. Pratt, of Oxford-street. The opening in the walls of the abdomen, and the parts around, are kept well lubricated with carbolised oil, and a pad of oakum is found very useful in absorbing and deodorising the discharges.

Ticehurst, Sussex.

THE Director-General of the Navy Medical Department, Sir Alexander Armstrong, K.C.B., lately made an official inspection of the Royal Naval Asylum at Great Yarmouth, in charge of Deputy Inspector-General W. Macleod, M.D., R.N.

ON THE GROUSE DISEASE.

By ROBERT FARQUHARSON, M.D.,

LECTURER ON MATERIA MEDICA AT ST. MARY'S HOSPITAL MEDICAL SCHOOL,
AND PHYSICIAN TO THE BELGRAVE HOSPITAL FOR CHILDREN.

ANOTHER very severe outbreak of grouse disease having occurred this season in various parts of Scotland, I venture to think that a short account of the careful dissection of several affected birds may not be without interest.

On August 10th I received a bird by post from Aberdeenshire. From its extremely feeble condition, it had readily been caught on the moor and conveyed home by the keeper; and having subsequently died a natural death, it was quite free from wounds or contusions, and therefore well adapted for examination.

I found it to be, in the first place, much emaciated; in short, a mere mass of bones and feathers. The thoracic organs were quite healthy, but on opening the abdomen some difficulty was experienced in removing the liver, which was soft, friable, and of a dirty greenish-yellow colour. The intestines were carefully slit up throughout their entire extent, and the first half of the smaller portion proceeding from the gizzard to the caeca was observed to be densely packed with tapeworm. The remaining portion of the canal, including the caeca and large intestines, was filled with thin, yellowish faeces, not unlike the characteristic evacuations of typhoid fever. The caeca contained a moderate number of the *Strongylus pergracilis*, which has been so well described by Dr. Cobbold. (See his pamphlet "On the Grouse Disease.")

On August 21st I received three diseased birds, also sent by post, so as to limit as far as possible the effects of decomposition. Emaciation had not reached anything like the same extent, and the morbid appearances differed slightly from those previously noted. Thus hardly any tapeworm was observed, but the strongyles were present in large numbers, one ordinary microscopic preparation containing from two to four, and the ova being exceedingly abundant. The intestines were full of soft evacuations, somewhat brownish in tint, and closely resembling thin paint; mucous membrane healthy, with the exception of a small portion of the caeca, which here, as in the first case, was studded with minute points of injection. The livers presented the invariable characters, being soft and almost diffuent, broken down throughout their whole extent, without any trace of purulent infiltration. Microscopic examination showed their minute structure to consist of a good deal of free oil and granular matter, with the hepatic cells in an advanced stage of fatty degeneration. All the other internal organs were healthy, and the blood and muscular tissue presented no deviation from the normal condition.

On more careful microscopic study of the fluid from the caeca, I was enabled to trace very completely the development of the embryo of Dr. Cobbold's strongyle, from the early granular condition of the ova, through the various stages of yolk segmentation, up to the formation of the perfect worm. Preservation for a few days in a moderately warm place enabled me to observe the interesting phenomenon of the young strongyles writhing and kicking vigorously within their containing shell. When released from imprisonment, their activity was no less remarkable than their tenacity of life; total desiccation for seventy-two hours between two slips of glass having merely the effect of temporarily suspending their manifestations of vital function.

The result of investigation into the morbid anatomy of these birds tends to confirm, in my own mind, the theory suggested in a letter published in THE LANCET last August, that the grouse disease consists essentially of a specific fever, propagated by epidemic or infectious influences, in the same way as cholera, typhoid, or enteric among ourselves. The appearance of the liver much resembles that noted in the continued fevers affecting the human race, and the invariable presence of diarrhoea as an early symptom points in the same direction; my post-mortem evidence being corroborated by experienced keepers, who have observed thin brownish droppings in the spring to be a pretty sure forerunner of the disease. Affected birds being almost invariably found in the neighbourhood of water, and being