determined until after that third year has passed. I fear that we fail to impress upon patients the necessity of such long duration of treatment and observation in every case of syphilis as much as we should.

NEEDLESS LAPAROTOMIES, WITH A REPORT OF EIGHT CASES.¹

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THE cases of needless laparotomy reported here do not include those in which an exploration pure and simple was made, nor those in which through an error in diagnosis one surgical condition was found instead of the expected one. They are rather those in which no surgical lesion could be discovered at operation in spite of the fact that the symptoms, so far as they could be analyzed, led definitely to a diagnosis of some grave surgical trouble within the abdomen. They might be defined more accurately as operations for medical lesions, or operations in which no adequate cause for the symptoms could be found.

I have not included that curious type of pneumonia in which the abdominal signs are most prominent; fortunately, so far, I have escaped opening the abdomen under these circumstances, although the temptation has been strong in more than one instance: nor have I included cases of typhoid simulating appendicitis, as both of these classes deserve separate consideration by themselves.

The diagnosis in most of the cases is open to criticism and suggestion; it has been speculative by necessity, especially where the patients were unable to give any intelligent history or description of their symptoms. In some of them, operation, to be of benefit, on the basis of a correct diagnosis, was demanded at once, before the meagre history and the unsatisfactory examination could be deliberately analyzed.

In brief, the cases, with perhaps the exception of the last one reported, represent all of those in which I have regretted that I was led to operate; but as I mentally review them, I am afraid that, for the most part, I should repeat the procedure under similar circumstances.

To make my confession a complete one I should, perchance, include cases like the following: Chronic appendicitis and hysteria; exploration for supposed typhoid perforation due to a double pyelonephritis; enlarged spleen from unknown cause; supposed cholecystitis in a patient with gumma of the liver; supposed intra-abdominal hemorrhage from contusion, and passive congestion of the left hepatic lobe from tricuspid lesion. In these cases there was either some lesion, indeterminable beforehand, or else the condition of the patient demanded exploration as the more conservative measure. Operations similar to these must fall to the lot of everyone; the plea that the operation does no harm is not a good

basis to work upon, and yet in a small proportion of cases this plea must be legitimate. There are abdominal diseases in which the true nature of the lesion is beyond the perception of the most skilled, and in some instances, grave and serious doubts must be cleared up by operation, and mainly on the basis that if the laparotomy does no good it can do no harm.

CASE I. *Acute phosphorous poisoning.*—A young woman was brought to the hospital in a delirious condition, by the ambulance. An indefinite history—most of which was gleaned from the husband after operation—of the use of some oil to produce abortion was obtained. The bowels had not moved for ten days, and for several days there had been persistent vomiting. The tongue was dry and dirty, and the distended abdomen was very sensitive to examination. A diagnosis of septic peritonitis was made. Under ether several quarts of high-colored urine, showing a thick ring of albumin, were drawn. A median incision showed some old adhesions about the pelvis but nothing abnormal elsewhere. The abdomen was filled with salt solution and closed, the patient living only a few hours.

Autopsy showed acute fatty degeneration of the liver, kidneys and myocardium, acute gastritis and cystitis, evidently caused by some irritant poison like phosphorus.

The distended bladder was recognized before section, but in the general picture made by the facies, the abdominal tenderness, the obstipation and vomiting, it played an unimportant rôle.

CASE II. *Hypertrophic cirrhosis.*—A young married woman, 32 years of age, had had attacks of weakness coming every 3 or 4 months for 2 years, and lasting about 2 weeks. For 6 weeks before entrance to the hospital there had been 7 or 8 loose stools daily, occasionally with blood and some vomiting. There was much general abdominal pain when the bowels moved, and occasional epigastric cramps independent of the other pain. There was much loss of weight, and for 4 weeks a marked jaundice. The color of the stools varied between dark and light, but at no time were characteristic. Examination showed intense jaundice, and the smooth edge of the liver could be felt at the level of the umbilicus. The pain persisted and the patient grew delirious. The diarrhea meanwhile continuing with almost constant tenesmus, and the temperature indicating a septic condition, the abdomen was opened. The liver was found to be smooth, symmetrically enlarged and of a mottled yellow color without evidence of local induration. Close to the celiac axis a hard nodule of the size of the thumb could be felt, but its nature could not be determined. As nothing abnormal was found elsewhere the abdomen was closed. On the following day the jaundice was less marked, vomiting ceased, and the patient felt better. The jaundice rapidly faded, the diarrhea lessened, and by the end of three weeks she was in an excellent condition, practically without jaundice or symptoms. Later I learned indirectly that she was treated in the

¹ Read before the Boston Obstetrical Society Oct. 15, and the Harvard Medical Society of New York Nov. 23, 1901.

Medical Out-Patient Department for cirrhosis, but whether that was the true and only cause of the acute symptoms that induced operation, I cannot say.

CASE III. *Acute nephritis*.—This patient, a widow 53 years old, was brought to the hospital in a very bad condition, by the ambulance. There was a history of severe pain starting two days previously in the left abdomen and back, shifting to the right hypochondrium, where it persisted. Although there was persistent bilious vomiting, the bowels had moved freely the day before entrance. Her color was bad and her pulse irregular and intermittent. A mass, apparently the right hepatic lobe, could be felt as low down as the umbilicus, but behind this, in the region of the kidney, was an area of marked tenderness. By catheter a few drops of bloody urine were drawn. No edema of the face was found. The general condition was bad, but after consultation with Dr. Bullard operation was advised on the chance that there might be some acute inflammatory process going on within the abdomen. A small incision showed the tumor to be the swollen right hepatic lobe. The gall bladder was moderately swollen and tense, but without signs of peritonitis or stones. Elsewhere, nothing could be felt or seen to warrant interference, and the abdomen was closed.

She lived for 18 days, vomiting considerably, with a temperature practically normal, but with persistent loss of flesh and strength. No autopsy was obtained. The urine examined the day after operation showed a specific gravity of 1,034, $\frac{1}{2}\%$ albumin, pus and renal cells, brown granular casts and some blood. A few days before death there was $\frac{1}{2}\%$ of albumin, a few leucocytes, many hyaline casts, some with round cells adherent.

CASE IV. *Nephritis*.—A trained nurse, 30 years of age, came under Dr. Henry Jackson's care, with the following history: Gastritis 3 years ago, with some digestive disturbance at various times since. Nine days before entrance to the hospital there was gastric pain and distress, without vomiting. The pain soon became severe and colicky, requiring morphia. Two days later there was again severe abdominal pain. Five days after admission she was well enough to sit up, but in the evening there was a return of the pain, fever and general abdominal tenderness, most marked in the appendix region, which quieted down under poultices. On the eleventh day slight edema of the lids, with mild fever, was noticed. Then for a few days there was alternating comfort and vomiting, with abdominal pain. On the sixteenth day the patient had chills, vomiting, pain in the right iliac region, general abdominal tenderness, and a temperature of 104°, with a rapid, intermittent pulse. Blood count showed a leucocytosis of 18,800. Palpation showed slight tenderness of the abdomen generally, with marked tenderness in the right hypochondrium, and fullness, with an apparent tumor, in the region of the right kidney; the tenderness over the appendix was less marked. The patient, meanwhile, in

the last few days, had lost ground. Under ether the spasm of the right rectus persisted in the hypochondriac region, but nothing abnormal could be felt over the appendix. A short opening was made, and nothing abnormal could be found in the liver, ducts, pancreas, stomach, intestines or appendix. About the falciform ligament there were a few adhesions, and one edge of the omentum felt thickened with a few recent adhesions. The upper border of the right kidney seemed obscure and fuller than normal, but not indurated. There was no excess of peritoneal fluid. As no further interference appeared to be called for, the abdomen was closed. Convalescence was steady and satisfactory, the urine increasing to normal about 3 weeks after operation, and the patient being discharged well and strong at the end of 6 weeks.

The urine on the day after operation showed a trace of albumin, a specific gravity of 1,018, much pus, many hyaline and granular casts, with occasional renal cells. Two weeks later it was the same. The quantity voided at first was only 11 oz., ranging from 17 to 30 oz. for 3 weeks, when it gradually increased to 60 oz.

CASE V. *Alcoholism*.—An Irishwoman, 50 years old, was transferred from the medical ward with a history of delirium tremens in times past and a recent period of excessive drinking. She was unconscious, with bed sores and a distended abdomen, which within 24 hours exhibited spasm and a slight fulness in the upper quadrant and left loin. The urine indicated only a chronic renal trouble. Cerebral, spinal and thoracic troubles could be ruled out clinically. The abdominal veins were prominent. Under the belief that there was a possible pancreatic or other acute intra-abdominal inflammation, an exploratory incision was made. The head of the pancreas felt swollen and indurated, and a portion was removed for examination. Nothing else was found abnormal. The patient lived only a few minutes, and no autopsy was allowed. Examination of the specimen from the pancreas showed nothing pathological. The patient's symptoms, in default of more accurate data from an autopsy, were probably due to alcoholism.

CASE VI. *Alcoholism and Morphinism*.—This case was somewhat similar to the last, with morphia as an additional factor. A dissolute woman of 35 fell down a vessel's hold for a distance of 20 feet, while intoxicated. At entrance to the hospital there was considerable shock, with contusions about the lower spine, severe backache and abdominal pain. When seen 8 hours after injury and about 4 hours after admission, there was increasing vomiting, tenderness over the abdomen generally, with marked spasm on pressure, and pain. The urine, drawn by catheter, contained some blood. Dulness in the right hypochondrium was noted, and apparently some fullness in the left hypochondrium. A diagnosis of rupture of the kidney or an intra-abdominal hemorrhage from some other cause was made, and the abdomen was opened. Nothing was found to

account for the symptoms and the wound was closed. Later, it was discovered that the patient was a morphin habitué and that any combination of symptoms possible could be evoked by reducing the customary dose of the drug. Convalescence from the operation was satisfactory, but it was difficult to cure her of her habit.

CASE VII. Obesity.—A man, 46 years old, was brought to my office by Dr. J. W. Johnson. A month before I saw him he had lost about 30 pounds, his weight falling to 145 pounds, and being seen at this time, when examination was easy and satisfactory, by a very keen diagnostician, a tumor of the kidney, supposed to be sarcoma, was found. Since then he had rapidly gained weight to 186 pounds, and apparently an ascites was well under way, as the circumference of the abdomen was increasing at the rate of one inch a day. Examination at this time was unsatisfactory, the abdomen being tense and fluctuating. An indefinite tumor could be felt in the region of the left kidney and in the right lower quadrant. For a year he had had dull pain in the left loin, which at times was sharp and aggravated by motion or jarring, and frequently interfered with sleep. After consultation at my office he sought the advice of one of our most prominent surgeons, who was unable to make a definite diagnosis but advised exploration. A month later he entered the hospital for operation, the abdomen having meanwhile steadily increased in size all out of proportion to the increase of his body elsewhere. I started to aspirate, but could not convince myself that there was ascites, so I opened the abdomen under ether. There was no excess of fluid; the kidneys, after most careful palpation, showed nothing abnormal. Nothing was found elsewhere except an excessive quantity of fat in the omentum (which was undoubtedly the tumors felt from the outside) and in the mesentery.

That there may have been a small renal calculus, with temporary blocking of the ureter, is quite possible, especially as the patient had had a marked oxaluria, for which he had been successfully treated by Dr. Johnson. His family history should have given me a clue to the diagnosis, as his father and sister were abnormally fat. Whether the obesity accounted for all of his symptoms, it is impossible to say with the data at command; it certainly explained the rapid increase in his abdominal circumference.

The symptoms were relieved for a while by operation, but later I learned that they had recurred more or less and were probably due to his oxaluria.

CASE VIII. Supposed pancreatic cyst.—In June, 1899, a married woman of 48 was dragged over the dashboard of a wagon and kicked by a stumbling horse. Unconscious for a while she vomited several times, the vomitus showing streaks of blood. Twenty months later she was referred to me by Dr. Benner of South Framingham, with the story of daily vomiting since the injury, the vomitus always being a yellowish, bitter fluid,

never containing food and coming at any time of day, but perhaps more frequently in the afternoon. She never vomited during the night. She complained of no pain, but a feeling of fullness and a swelling in the epigastrium which were relieved by the vomiting. At no time had there been jaundice and she had lost about 30 lbs., although her appetite and digestion were good. The epigastrium was tender with spasm. An indistinct feeling of deep fullness merging off to the left could be felt on palpation. The aortic impulse felt superficial; the stomach was not dilated. Elsewhere the abdomen was negative. She had already sued the town where she was injured and had recovered damages. A diagnosis of pancreatic cyst, or partial obstruction of the duct, or a retroperitoneal growth, was made. As she was steadily growing worse an exploration was advised. A fortnight later, at the Framingham Hospital, the abdomen was opened. Under ether the epigastric spasm was slight only. The supposed tumor proved to be the pancreas spread out over a rheumatoid spine projecting forwards. Careful examination of all the adjacent organs showed them to be normal. The retroperitoneal space was opened and nothing found to explain her condition. The abdomen was closed, she recovered quickly from operation, and the fullness and vomiting disappeared never to return.

To discuss the possible diagnoses in each individual case would lengthen the paper indefinitely. In some, painstaking examinations were made, while in others only a routine examination could be carried out under the existing circumstances; but, for the most part, in each individual many possible conditions were debated and ruled out, although it has not seemed worth while in this report to elaborately discuss the various considerations.

THE VAGUS REFLEX.

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In a footnote appended to my first paper¹ on the vagus treatment of phthisis, the statement is made that on investigation it will be found that pressure over the course of one vagus in the region of the neck produces more pain on one than on the opposite side in most phthisical persons, and that this supersensitiveness usually corresponds with the side of the chest having the affected lung. During the two years that have elapsed since this was written I have investigated this subject further and believe that it is not only an almost constant concomitant of phthisis, but that it is a frequent premonitory symptom of this disease, and is often associated with other pulmonary and nervous disorders either as a forerunner or as an accompanying sign.

Nor did I know when the above was penned that the physiological and the clinical aspect of vagus compression had been described very ably

¹ The hypodermic injection of silver nitrate over the course of the vagi in the treatment of pulmonary consumption, *Philadelphia Medical Journal*, Feb. 11, 1899.