

firmly convinced, would have been saved by immediate laparotomy.

All cases which begin violently with sudden acute pain, with severe constitutional disturbance, distension and vomiting, with local tenderness, demand immediate operative investigation for the following reasons:

(1) It is impossible to say that the case is not going to be one of uncontrollable general septic peritonitis within a few hours.

(2) The condition of perforation admits of delay no more than perforations of the stomach, intestines or bladder, or the rupture of an extra-uterine pregnancy, or any other abdominal emergency.

(3) The mortality would undoubtedly be less in a hundred cases than by any method of selection.

APPENDICITIS; SUMMARY OF CASES.¹

BY J. W. ELLIOT, M.D.

In the year ending March 25, 1892, I have had eight cases of appendicitis, with six operations. All have recovered.

In the last two years I have been called as a surgeon to decide the question of operation in 21 cases, all but two occurring in private practice; 19 recovered and two died, a mortality of about 10 per cent. As the two deaths have already been reported, I will simply say that one of them was operated upon on the fourth day when the appendix was found to have entirely sloughed out of the cecum, leaving a hole large enough to admit the finger. In the other case I was called too late, and found the patient far gone in general purulent peritonitis.

Of the 21 cases, 12 were operated on; of these 10 recovered and two died, a mortality of about 16 per cent., including desperate cases. The appendix was removed six times, with the two deaths referred to above. General purulent peritonitis, as evinced by free pus in the abdominal cavity, existed in four cases, of which only one died. In all the cases of purulent peritonitis the general peritoneal cavity was washed out and a drainage-tube placed in the pelvis, as well as one in the appendix region. The general peritoneal cavity was opened eight times, with the same two deaths. The earliest operations were done forty and forty-five hours after the first attack of pain.

Nine cases were not operated on, and all recovered. The highest temperatures of the non-operative cases varied from 103° to 100°. There was a definite tumor in the iliac fossa in only one of these cases, and indistinct resistance in one other. There was intense pain and tenderness in the same region in seven cases.

All the cases operated on showed well-marked local signs. In four the abdomen was swollen, tense and tympanitic. In two the abdomen was rigid and rather retracted, with a tumor in the right iliac fossa. In five there were distinct tumors, with little or no general abdominal swelling. The average highest temperature of the operated cases was slightly under the average highest temperature of the non-operated cases, which shows that the temperature does not tell us which are the most serious cases.

From my experience with these cases and many others, I have come to base my opinion and prognosis

largely on the local signs. For if the appendix is inflamed or perforated, either there is an exudation around it which can be felt sooner or later, usually very soon, or there is a general swelling and tympanitic condition of the abdomen which indicates a beginning general peritonitis. The one possibility of error from this point of view is that there are a certain number of very acute septic cases in which a general infection takes place before the local symptoms begin. Therefore, if one is waiting for local symptoms, this acute septic condition must be kept in mind and acted on before the local symptoms appear.

To approach this subject from the other end, and say which cases ought not to be operated on. Excluding the very acute septic cases, the symptoms of which are ragged pulse, bad expression, stupor, delirium, chills, etc., one can with moderate safety wait for some tangible local symptom. In other words, in the absence of acute septicemia, I do not operate until there are local signs (an abdomen distended, tympanitic or rigid, or resistance in the right iliac fossa). But when there are definite local signs I almost always operate at once no matter what the pulse or temperature may be. I understand perfectly that a cake in the right iliac fossa may go away and does go away in a certain number of cases, but it seems to me safer to operate, as the danger of the operation is small while the danger of rupture, septic poisoning and spreading gangrene is always present as long as the tumor remains.

From this point of view an accurate and early observation of the local signs becomes of great importance. I hardly need go over the details of these observations, but will simply mention a few points. One must distinguish faecal accumulations which are very common in these cases. Local rigidity of muscles must also be distinguished from a definite tumor. One must learn that large abscesses may exist where there is no dulness whatever. I consider palpation by far the most valuable method of diagnosis. With practice one can feel intestines glued together and dilated, one can palpate an elastic mass deep under the intestines where it would not give a dull percussion note, etc. Ether helps greatly in cases of doubt. The early recognition of a slightly swollen and tympanitic condition of the abdomen is perhaps the most important point to be observed.

In very doubtful cases the local and constitutional signs must be balanced against each other. As I have said before in another paper,² with moderate local symptoms and severe constitutional symptoms I should go slowly, whereas with well-marked local symptoms and rather slight constitutional symptoms I should operate at once.

I think that the operation requires greater good judgment and skill than any known operation in surgery. While the local abscess cavity should not be broken into the general peritoneal cavity, one must not overlook pus in the pelvis. These two difficulties are of great importance in appendicitis. Many patients have been killed by breaking up a local abscess and many others have been killed because the surgeon had not recognized that besides the local abscess there was more pus deep in the pelvis. The skilled finger learns to estimate the strength of the walls of the abscess and to find the direction in which the pus burrows,

¹ Read before the Surgical Section of the Suffolk District Medical Society, April 6, 1892.

² Boston Medical and Surgical Journal, May 21, 1891. This article contains a report of the first thirteen cases referred to in this paper, also a discussion of the more complex conditions occurring in appendicitis.

while the constitutional disturbance helps to decide the probability of more pus in the pelvis or loin.

It is not to be supposed that the above argument covers all the conditions arising in appendicitis or indicates an invariable rule for operating, but it is the underlying principle which has greatest weight with the writer in all cases.

The following cases operated on this year will serve to illustrate the points of the discussion.

CASE XIV. *A Circumscribed Abscess between the bladder and small intestines, not adherent to the abdominal wall ; Operation on the sixth day ; Recovery.*

The patient, a man thirty years old, was taken with a pain in the abdomen on May 31st but kept about all the next day.

June 2d, he had more pain and diarrhœa, with a chill and vomiting.

June 3d, the bowels moved several times after a dose of oil. Opium pills were taken.

June 5th, Dr. S. E. Wyman, of Cambridge, found him with bowels obstructed, having griping pains with nausea and vomiting and difficult micturition. Temperature 100.6°, pulse 99.

June 6th, I saw the patient in consultation with Dr. Wyman. Temperature 101°, pulse 108. The patient said that he felt well, and had a good appetite, but had a tender spot in the right side of the abdomen. The abdomen was moderately swollen and tympanitic, the left side being soft while the right was hard and resistant. There was a tender lump three fingers broad running from the middle of Poupart's ligament towards the umbilicus. The rectum was ballooned open with a hard roof.

The operation was done at once. The abdomen being opened over the tumor, three inches inside the crest of the ilium, free ascitic fluid ran out. On pushing the finger into the tumor, a tumblerful of stinking pus was evacuated. The finger went into a long, deep pus cavity, running down into the pelvis between the bladder and intestines. The cavity seemed to be made of firm adhesions, for which reason the appendix was not separated. A small bit of inflamed omentum protruded, and was removed. The abscess cavity was washed out with hot water and filled with two drainage-tubes and iodoform gauze.

The tubes discharged a quantity of pus and two pieces of hardened faeces. Convalescence was slow, and it was found difficult to keep the tubes in place. The patient finally made perfect recovery.

CASE XV. *Purulent Peritonitis ; Excision of the Appendix and Drainage of the General Abdominal Cavity forty hours after the first pain ; Recovery.*

The patient, a boy of six, had pain in the abdomen on the evening of June 11th. He had had two movements of the bowels on that day.

June 12th, he had pain and vomiting all day. Temperature normal.

June 13th, there was no vomiting, and there was less pain. Temperature 101°. I saw him at four o'clock in the afternoon in consultation with Drs. Sullivan and Prior of Malden. The child looked sick and had a pulse of 130. The abdomen was flat and rigid, and very tender on the right side. Palpation was impossible on account of fear and nervousness. Ether was therefore given for diagnosis. Under ether the abdomen remained rigid but a lump the size of a

small purse could be felt just inside the anterior superior spine of the ilium. I opened the abdomen at once, and found thick greenish pus around the appendix. The omentum and bowels were covered in patches with green sloughs. The appendix was large and very red. It was excised and the inner coats found to be gangrenous. There was a quantity of thin purulent fluid in the pelvis and in the right loin. The abdominal cavity was washed out with water ; a glass drainage-tube was placed in the pelvis and a rubber-tube in the loin, with iodoform gauze. Under Dr. Prior's care, the patient made a prompt and uneventful recovery.

CASE XVII. *Pus in the Appendix Region with beginning General Purulent Peritonitis ; Operation forty-five hours after the first pain ; Recovery.*

The patient, a school-girl of eighteen, was seen on November 21, 1891, in consultation with Dr. G. A. Bancroft, of Wellesley. She had been confined to her bed for two weeks in August with pain and tenderness in the right iliac fossa and had never regained her full vigor.

On November 19th, she was at school as usual. She had two movements of the bowels, and in the evening was attacked with an intense pain in the right side, accompanied by nausea, vomiting and a chill. At twelve o'clock that night Dr. Bancroft found her very restless and in great pain, with anxious expression and legs flexed. The abdomen was slightly tympanitic in general, but more so in the right iliac fossa. There was rigidity of the abdominal wall and extreme tenderness in the right iliac fossa. Temperature 101.2°, pulse 100. Opium was given freely.

November 20th. Temperature 101.4° and pulse 112 in the morning. Tenderness increasing. A dose of salts was given, but no movement followed. In the evening the patient felt better, and there was less tenderness, but there was more rigidity and a slight dullness on percussion in the right iliac fossa. Temperature 99.5°, pulse 86. An enema was given without result.

November 21st. Temperature 102.2°, pulse 120. Pain more severe. The abdominal wall was noticeably swollen on the right side. I first saw the patient at three p. m. The abdomen was generally tympanitic, and there was well-marked dullness and resistance in right iliac fossa. I operated at once. Making the usual incision, one inch inside the anterior superior spine of the ilium, came upon pus apparently localized, but not walled off from the general peritoneal cavity. Several ounces of thin pus were found in the pelvis. Gangrenous patches of false membrane were seen on the intestines. The whole abdominal cavity was washed out with warm water. A long glass drainage-tube was placed in the pelvis, and a rubber-tube with iodoform gauze in the region of the appendix. The appendix was not seen.

Recovery was uneventful. The glass tube was removed on the second day and the bowels moved at the end of a week.

CASE XX. *Circumscribed Abscess ; Operated on the third day, with the patient in extremis ; Recovery.*

The patient, a young girl of eighteen, entered the medical ward of the Massachusetts General Hospital on January 9, 1892. Ten days previous she had had cramps in the lower abdomen, and especially in the

right iliac region, followed by diarrhoea and vomiting. The next day she was as well as ever.

January 7th, she had severe, sharp pain in the right iliac region. Dull pain continued in the same region with increasing tenderness. Not even gas had passed the bowels since.

January 9th. A catheter had been required for two days. She was very anæmic with a systolic heart murmur. Temperature 104.2°, pulse 130. The abdomen was moderately distended and tympanitic. There was an indurated mass in the right iliac region, dull on percussion and quite tender.

January 10th. Patient had slept all night; had but little pain, and was quiet all day, but the mass in the right side was perceptibly larger and more tender. In the evening the patient appeared stupid. The pulse became rapid and weak; temperature rose to 105°.

I was sent for and operated immediately. The patient seemed too feeble to stand even a slight operation. The mass in the right side was incised as quickly as possible, and several ounces of foul, stringy pus washed out. A finger in the incision came on a furry cavity down behind the cæcum. The appendix could be felt in this cavity. The opening was filled with two drainage-tubes and iodoform gauze. The patient was almost pulseless at the end of the operation, but with stimulants slowly rallied.

January 12th. Decided improvement since the operation. Abdominal swelling disappearing.

January 21st. General condition much improved. No discharge. Drainage tubes removed.

January 30th. Patient quite well. Only a granulating wound left.

I cannot close this report of recoveries in cases formerly so terribly fatal without saying that it is the direct outgrowth of Dr. Fitz's fine work on this subject in 1886.

THE NECESSITY OF A REVISION OF THE CLASSIFICATION AND NOMENCLATURE EMPLOYED IN THE VITAL STATISTICS OF MASSACHUSETTS.¹

BY SAMUEL W. ABBOTT, M.D., OF WAKEFIELD.

IN the following paper I do not propose to treat exhaustively of the subjects of the medical nomenclature and classification of diseases, but rather to introduce the subject in a suggestive manner with the view of asking the question whether any changes are necessary, and if so, what changes, in the classification and nomenclature now employed in the registration of deaths in this State.

What are the primary objects of the classification and nomenclature of diseases? An English writer has clearly said, "a good classification aids and simplifies the registration of diseases, helps toward a more easy comparison and knowledge of them, and toward the storing of experience respecting them, and facilitates the discovering of general principles from the collected, grouped and compared phenomena."²

In addition, medical nomenclature and terminology furnish the means for separating and distinguishing diseases and causes of death. Thorough registration must depend to a considerable degree for its efficiency upon the perfection of these means. The classification

of diseases or causes of death differs little, if any, in its objects, from the great systems of classification employed in the different departments of biology. One of the greatest of modern teachers, Professor Agassiz, says, in commenting upon the object and utility of classification, "Have we, perhaps, thus far, been only the unconscious interpreters of a divine conception, in our attempts to expound Nature? And when in our pride of philosophy, we thought that we were inventing systems of science, and classifying creation by the force of our reason, have we followed only, and reproduced in our imperfect expressions, the plan whose foundations were laid in the dawn of creation, and the development of which we are laboriously studying;—thinking, as we put together and arrange our fragmentary knowledge, that we are anew introducing order into chaos? Is this order the result of the exertions of human skill and ingenuity, or is it inherent in the objects themselves, so that the intelligent student of natural history is led unconsciously by the study of the animal kingdom itself, to these conclusions, the great divisions under which he arranges animals being but the headings to the chapters of the great book he is reading?"

The intelligent student of medicine, and by the term student I would include the whole profession (for we are students as long as we live, and the science of medicine has anything to teach us), the true student of medicine is in the same position as the student of nature.

An ex-president of this Society, in his annual address, stated his belief that "Disease is a part of the Plan of Creation," and if we accept this proposition, which modern researches as to the cause of disease seem still more strongly to confirm, it becomes our duty to learn as clearly as possible what the plan is, and what is its natural order of arrangement.

A uniform and conventional classification of diseases is desirable, in order that the medical profession everywhere, in all nations and lands, may the more intelligently and harmoniously unite in the study of the diseases of mankind. It is neither necessary, nor is it possible that such classification should be immutable, since the progressive character of medical science is such as to require changes from time to time. When such changes are made, however, they should be agreed upon as the conventional opinion of the profession.

Two centuries ago the classification and nomenclature of disease was widely different from that of to-day. Who can tell you how far that of to-day differs from that which will become the admitted classification of two centuries hence? This want of uniformity interferes with the interpretation of medical statistics, especially when such statistics cover a long period of time. So far as the larger groups or divisions are concerned, there is no way of avoiding this disturbing cause.

The classification of the seventeenth century can scarcely be called a classification. In the mortality statistics of the city of London, compiled by Captain John Graunt of the Royal Society, and embracing the period from 1629 to 1660, no classification is attempted, and while the nomenclature includes many terms which are still in common use, there are many others which contribute quite largely to the mortality-lists, which have no place in modern nomenclature. The following are a few of these terms: *Impostume*, *Chrisoms*,

¹ Read before the Massachusetts Medical Society, June 8, 1882, and recommended for publication by the Society.

² *Elements of Vital Statistics*. Arthur Nowsholme, M.D., London, 1889.