Original Articles.

PAPERS ON THE DIAGNOSIS OF APPENDICITIS.

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II. REMARKS ON THE DIAGNOSIS BETWEEN ACUTE APPENDICITIS AND ACUTE INTRATHORACIC DISEASE.

THAT there should be any difficulty in discriminating between acute thoracic and acute abdominal lesions seems, on the face of it, absurd; yet in an experience of between two and three thousand cases of acute abdominal disease the question has arisen often enough to make a deep impression upon me. At first thought it would seem that acute abdominal symptoms occurring in the course of acute intrathoracic disease must indicate an abdominal complication of that disease; that there must be either an abdominal complication of intrathoracic disease or an intrathoracic complication of abdominal disease. Such complications are by no means unusual, as every experienced observer will admit. A right-sided pleurisy or empyema, following in the course of an undoubted appendicitis—and especially in the cases of appendicitis operated upon—is conspicuously a complication of the original disease, and directly dependent upon it, by the extension of the septic process through various channels—*anatomical, lymphatic or vascular*. So, in the course of an acute pneumonia there is no reason why there should not be at the same time an infection—*diplococcal or other*—of the appendix. Such complications are to be expected; they are easy of explanation; they can hardly cause an error in diagnosis.

The following remarks apply rather to cases in which acute sudden pain in the abdomen, with or without other symptoms, suggests appendicitis strongly enough to have a surgeon called. In some of these cases thoracic symptoms are prominent, in others they are not. In some the discovery of thoracic signs will establish at once the diagnosis, the abdominal pain and other symptoms of appendicitis being then regarded as physiological rather than as pathological. Not that an acute pathological process may not start in the appendix at the same time that one starts in the lungs; but such a combination, though possible, is so unusual as to justify, by its very rarity, elimination from the probabilities.

That confusion may arise between certain unusual forms of typhoid fever and acute appendicitis is not to be wondered at, for typhoid fever is, in its local manifestations at least, an abdominal disease; and yet in cases of atypical typhoid in which abdominal pain is a prominent symptom, the diagnosis of appendicitis is seldom made clear and indisputable.

In acute right-sided disease of the thorax, on the other hand, the symptoms of appendicitis may be so typical that unless the surgeon makes tho-

racic examinations an invariable rule, he may be completely deceived, and, in a beginning pneumonia or pleurisy, explore a normal appendix.

It would seem hardly possible that such an error could be made. It must be remembered, however, that in every calling mistakes of the most glaring and inexplicable character are at times made, even by the most experienced. For a true perception of the normal relations of things to be temporarily suspended, it is only necessary that the mind for a moment be dominated by a fixed idea. Who has not, at some time of life, become completely turned around, so that, for example, the sun seemed to rise in the west? Who, even though familiar with the sea, has not entirely miscalculated his bearings—not necessarily in a fog, but when everything was clear—and struck a rock which perhaps he knew even better than the most experienced physician knows a pneumonia or an appendicitis? In every walk in life occasions may arise when one is off his guard—when he forgets that one little thing essential for the safe conduct of his enterprise.

So long as the essential thing is under the observation of a single mind mistakes cannot but occur, even if that mind usually is clear and logical. Influenced by a single suggestion or by a chain of suggestive circumstances, the mind may become so possessed of a certain idea that the result will necessarily be distorted and incorrect. History in general is filled with examples of such errors; and the history of medicine and surgery—could it be truly written—would also be filled with them. It is the object of this paper to record a few in connection with that great topic, appendicitis.

CASE I.¹ On Wednesday, June 7, 1893, I saw, with Dr. Morrison of East Boston, Fred A. R., a boy of six, with the following history, which I give in some detail from my shorthand notes:

On the previous Saturday morning he complained of pain in the side. (The father indicated the right lumbar region.) He vomited; he could retain nothing. He complained a good deal of headache. The next day he still complained of pain in the side. On Monday the symptoms were the same. The pain and vomiting continued. On Tuesday Dr. Morrison saw the boy for the first time. The pain was in the right iliac fossa, between the umbilicus and the anterior superior spine of the ilium. Dr. Morrison thought that there might be *some trouble in the chest*. (Even with this suggestion, our ideas had already leaped toward acute appendicitis.) There had been no vomiting since Monday. The boy complained of the right iliac fossa—that one spot, and that alone. The left side was not tender. The abdomen was tense; the temperature 104.5°.

On Wednesday, by physical examination, I found the following condition: The pulse was 120; the respiration 40. The temperature was not given. The abdomen was distended and everywhere tender; the tongue was clean; the legs were drawn up; the respiration was noisy and rattling; the cheeks were flushed and the eyes sunken. The general appearance was bad. My notes conclude: "I do not think that he can stand operation as he is."

I made the diagnosis of acute appendicitis with probable general peritonitis, and sent the boy directly to the Massachusetts General Hospital.

¹ This case, numbered 184, has been published in a table of cases of appendicitis in the American Journal of Medical Sciences for January, 1894.

The foregoing record is taken almost verbatim from my notes. In the light of my present experience I should say that two or three symptoms were suspicious: (1) The temperature of 104.5° , which is very unusual in acute appendicitis; (2) the wheezy respiration, which should at least have suggested a pulmonary complication, and which did suggest it to Dr. Morrison; (3) a respiration of 40. At that time I knew less of the significance of rigidity and of exquisite tenderness than I do now, and absolutely nothing of acute abdominal pain in pneumonia and pleurisy. Today the temperature alone would have excited suspicion that the lesion was not acute appendicitis. The least thoracic symptom would have confirmed this suspicion. Furthermore, today I should never omit, especially in children, an examination of the thorax. Had one been made it is safe to say that the patient would not have been operated upon.

On Thursday, June 8, the surgeon on duty, accepting our diagnosis without question, removed an appendix which was thought to be the seat of a "catarrhal inflammation." The boy did well, but after the operation had dyspnea and cough. On June 20 the right thorax was aspirated and pus was withdrawn. On July 3 I resected a rib and drained the thorax. On Aug. 1 he was discharged, fat and well.

It was but natural for the attending surgeon to agree with my diagnosis, for the idea of acute appendicitis, preconceived by myself, was simply transferred to him, emphasized by the very conspicuous abdominal symptoms present. The thoracic symptoms, far from being interpreted rightly by me, were looked upon merely as serious constitutional symptoms secondary to the principal lesion in the appendix.

This case made so profound an impression upon me that I have ever since been on my guard, and have been able in the following cases to avoid the disaster of an unnecessary—not to say deplorable—abdominal operation in the case of a pneumonia or a pleurisy, though I should have withheld, for a few hours, at least, in Case VI, an imperative operation.

CASE II. Malcolm B. E., age four, I saw on Monday, Jan. 1, 1894, with Dr. Fanny Berlin.

This boy had always been delicate. Two years before he had had a severe attack of whooping cough. He was subject every winter to tonsillitis and to bronchitis. On the preceding Wednesday the boy seemed ill. The temperature was, however, normal. On Thursday Dr. Berlin saw the boy. He complained of "stomach-ache." Though the abdomen was flat, Dr. Berlin immediately thought of appendicitis. The only symptom was pain—at one time in the right side, at another in the left. He was coughing badly. The temperature was 101° . The bowels were moving freely. On Friday he was about the same. The lungs had râles, and Dr. Berlin "thought that it was the beginning of pneumonia." There was no complaint of pain and no local tenderness. He remained comfortable until 4 o'clock Friday morning, when he had a temperature of 105° and complained of pain in the left shoulder. There was decided crepitation in the left lung. Every time he coughed he said that his stomach hurt him. He had a great deal of pain in the side (indicating the epigastrium). The temperature was 104° to 106° ; respiration, 42. There was a frequent and hard cough.

On Sunday the temperature was 105° and down to 104° , 103° and 102° . The symptoms were more suggestive of pneumonia than of anything else. There was no distention. The amount of urine was sufficient. At 5 p.m. Sunday he was at his best: temperature 102.2° , pulse 120, respiration 36.

At 4 o'clock on Monday morning there was acute abdominal pain. The abdomen was somewhat distended. There was in the appendicular region pain all the time. Dr. Berlin feared appendicitis as well as trouble in the lungs.

I saw the boy for the first time on this day. My notes say: "Cheeks flushed; dullness in right iliac fossa; abdomen full—somewhat prominent—not hard; intestinal sounds heard with stethoscope. Tenderness about as great in one place as another; no dullness; pulse 120. I do not think operation advisable, for I am sure there is no trouble with the appendix. I should think there was some trouble in the appendix if I had not seen the East Boston case (Case I)."

In this case no mention is made of rigidity, except that its absence is implied by the words "not hard." The high temperature was accounted for by the pneumonia, which in this case was early recognized. The only evidence of appendicitis was the pain in the right iliac fossa. This evidence was weakened by its existence at times elsewhere. Tenderness was nowhere exquisite. The abdomen was full, it is true, and everywhere tender, but it was soft. The temperature was in the beginning very high; there was no tumor; the bowels were acting.

The conclusion that the abdominal symptoms were secondary to an acute process in the thorax was inevitable, even though that process was left-sided. The thoracic symptoms were much more pronounced than in Case I, and they were at once recognized and correctly interpreted. The symptoms, making strong the fear of appendicitis, were not characteristic of that disease. The supposition that an acute appendicitis was complicating an acute pneumonia was therefore untenable. It is hardly supposable that one could have operated in such a case, even at that time when clinical experience in appendicitis was comparatively limited.

Dr. Berlin has recently sent me the following note regarding the subsequent course in this case:

"M. E. recovered from the pneumonia from which he was then suffering. For several days after you saw him he continued to refer the pain to the region of the appendix vermiformis. The pain then gradually disappeared. The pneumonia left him in a very delicate condition, so that his parents have ever since been taking him for the winters to different places in California. When I saw him last summer he had improved wonderfully, and looked and felt perfectly well."

CASE III. In this case there was no suspicion of thoracic disease, until in suspected appendicitis I happened to discover dullness in the course of a routine examination of the lungs.

Alice A., age five, I saw Thursday, April 19, 1894, at Lawrence, Mass., with Drs. Dow and Chamberlain of Lawrence and Dr. Conn of Concord, N. H.

A week ago Sunday, while eating dinner, this girl was taken with pain in the abdomen. She left the table and lay down. The pain continued into the afternoon and through the night. On Monday Dr. Dow saw her. She complained of pain and tenderness in the right iliac fossa. The temperature was 104.4° (first suspicious circumstance). The cheeks were not flushed, but pale. She complained of a little head-

ache. The tongue was coated; the bowels were active. The temperature kept up for two days, when the temperature and pain began to subside. She still had a little tenderness, which soon passed away. The temperature went to normal, and she seemed to be convalescing. On Tuesday, after a bad night, she began to have pain again, and the temperature began to rise. Dr. Chamberlain was called in, but could discover nothing abnormal. It was thought possibly an appendicitis, and I was called.

Physical examination.—The bowels were tender in the right side along the course of the lower intercostal nerves. There was no dullness or tumor in the abdomen, and no tenderness except in the right side. The right thorax was flat, with tubular respiration and bronchophony.

The diagnosis of appendicitis in this case was clearly unwarrantable. The attending physicians looked upon it not as a likely, but as a possible explanation of the abdominal pain. There was nothing whatever in the case to call attention to the lungs, and I should have discovered the pulmonary lesion only in the course of the routine examination of the thorax. The subsidence of the pain and its disappearance for two days, with sudden reappearance, was characteristic of appendicitis, and, as far as it went, was suggestive of that disease.

Had nothing been found in the lungs, I should have regarded the case as a possible appendicitis. It would have been necessary, however, to assume that there was a rapid absorption from the inside of the appendix, for there were no signs whatever of a localized peritonitis.

The patient made a rapid and satisfactory recovery.

The possible quick infection of the pleura from an appendicular lesion must be considered in connection with a case like this. That a severe intrathoracic infection may follow absorption from a comparatively insignificant focus in the appendix must be admitted. I have seen a large encapsulated abscess between the liver and the diaphragm, accompanying an appendicitis that was progressing very favorably at the seat of the appendix itself. In this case, however, there was no doubt whatever about the existence of an acute infection of the appendix. The earliest and most important suggestion of appendicitis in Case III, as well as in other cases, was pain, and that pain was of such a character as to alarm the attending physician, and to cause not a little disquietude to the consulting surgeon, who ruled out appendicitis. Even with an experience of hundreds of cases of appendicitis of all kinds, he is a bold man who, in such cases, is willing, without careful study and the most searching examinations, to exclude appendicitis, even when the thoracic symptoms have been well recognized.

CASE IV was a boy of four, seen Monday, March 12, 1900, with Dr. Dow of Cambridge. In the years between the last case and this one I had had no occasion to suspect infection of the lungs or pleura as the source of abdominal pain attributed to appendicitis.

This boy had been taken sick on Sunday, March 4, with cough and restlessness. There was a slight laryngeal irritation. The next day he was feeling better—not very sick—simply ailing. On Tuesday he had a temperature of 103°. Dr. Dow could find no trouble

in the lungs to account for the temperature, the only thoracic symptom being rapid respiration. The abdomen was slightly distended, but the bowels had been somewhat constipated. On Wednesday the temperature was normal, and the boy was feeling well. That night the temperature went to 101.5°. Thursday night he was very ill and restless. The bowels were free. Micturition was painful. There seemed to be no especial cause for the illness.

On Sunday, March 11, the boy began to complain of pain in the abdomen when he coughed. Dr. Dow made repeated examinations of the lungs. He could, however, find no explanation for the rapid respiration, "but at the slightest touch over McBurney's point," Dr. Dow said, "the boy complained most vehemently that I hurt him. The bowels seemed rigid." Dr. Dow, from these symptoms, naturally suspected appendicitis, and sent at once for a surgeon.

I saw this boy on Monday, the day following the onset of pain. The pain seemed severe, and was complained of a great deal. The abdomen hurt him when he moved or when he was turned. The temperature was 101.6°. There had been vomiting. Gas had been passed freely. The boy had never had an attack like this before.

On physical examination I found the abdomen moderately distended and tender. The tenderness was general, and rather more marked in the right iliac fossa than elsewhere. There was no rigidity or other evidence of localized peritonitis. The lungs contained abundant râles.

It seemed to me wise to wait either for the complete subsidence of the thoracic symptoms or for the more marked appearance of the abdominal. To operate upon so mild a case of appendicitis with such ominous signs of lung disease would have seemed absolutely indefensible. Indeed, to operate for the abdominal symptoms, even had the respiratory symptoms been absent, would have been, in my opinion, unwise. There was every indication in favor of delay. I therefore advised against operation. On the following day Dr. Dow found a beginning pneumonia, which soon became typical. The abdominal symptom disappeared entirely in two days. The boy made a rapid convalescence from what proved to be a typical pneumonia.

CASE V. The patient, a man of 35, was brought to the Accident Room of the Massachusetts General Hospital on Oct. 7, 1901, as an abdominal emergency. The symptoms were apparently urgent, and the man was prepared for immediate operation.

The history was as follows: "Three weeks ago the patient was suddenly taken with abdominal pain and chills, accompanied by sweating. He vomited and had to go to bed. He was better next day, but had some cough and raised considerable foul-tasting material. During the three weeks which followed he has had chills and fever almost every night, sometimes with vomiting. Most of the time he has been in bed. Has had considerable pain in chest, and cough. This morning he was seized with sudden and very severe pain just in front of the right scapula. This was intense, sharp and shooting in character. The vomiting was quite profuse, and he raised a great deal of phlegm. At no time has he been jaundiced, and he has noticed nothing wrong with stools or urine. The bowels have been regular."

Physical examination.—Well developed and nourished. Nothing definite made out in chest. Medical house officer finds no signs. Patient evidently in great distress. Abdomen very rigid, but not tender anywhere; urine negative; blood count 21,000; no tenderness by rectum.

I was asked to see this patient, who had been admitted to the care of Dr. Warren. The abdominal symptoms were marked, but there was something about the physical examination which suggested that the explanation for them might be found in the chest. The most suspicious thing about the case was the absence of tenderness. There was abdominal pain and rigidity without tenderness. I advised deferring the operation, and in this opinion Dr. Warren concurred.

On the following day Dr. Vickery made the diagnosis of pneumonia.

Several suspicious circumstances were conspicuous in this case: The history, from the beginning, pointed toward the chest, though it pointed also toward the abdomen; the sudden seizure, on Oct. 7, of pain in the region of the right scapula indicated a thoracic lesion, or possibly a lesion of the gall bladder. The absence of vomiting was a significant feature, though vomiting is frequently absent in severe cases of appendicitis. The rapid respiration was significant of intrathoracic disease, though this symptom may be present in extreme abdominal pain with tenderness and rigidity. The absence of tenderness was, however, the most significant fact of all. Rigidity without tenderness, even if abdominal pain is severe, should always excite suspicion.

The absence of dulness or tumor was important, for if there had been a localized peritonitis of three weeks' standing, I could hardly have failed to detect a tumor or cake; my inability to detect a tumor, though explicable if the appendix was deeply seated, added materially to the incredulity with which I regarded the diagnosis of appendicitis. Had rectal tenderness been present, with deep pelvic tumor, the diagnosis of appendicitis would have been almost certain, even under the suspicious circumstances already mentioned.

It is quite possible that there was an acute lesion in the abdomen as well as in the thorax. Indeed, the possibility of perforated gastric ulcer or of acute cholecystitis was seriously considered.

The patient, after the development of pneumonia, was transferred to the medical service. On Oct. 13 the sputum became purulent, and contained many pneumococci and influenza bacilli. On the 15th he raised 10 oz. of foul-smelling pus. From this time he gradually improved until his discharge, Nov. 25. His illness was extremely severe. In four weeks he lost some 40 or 50 lbs. in weight.

This case was the most alarming one of all here reported. The abdominal symptoms seemed to demand immediate operation. I do not hesitate to say that I should have advised exploration had it not been for the experience gained in the preceding cases. The possibility of a thoracic origin for acute abdominal symptoms must always be borne in mind when the least sign points toward the thorax. Whenever the history of onset is unusual, or whenever the abdominal examination fails to give the usual combination of cardinal symptoms, it is well to look for the commoner complicating lesions. It is still better in all cases, however plain, to make examinations of the thorax, as a matter of routine.

An illustration of the danger of going too far in conservatism when the symptoms do not quite satisfy the surgeon that his art is demanded, is the following case, which came at a time when my mind was filled with the importance of not opening the abdomen for pneumonia or for typhoid fever.

CASE VI. At the close of Dr. Warren's clinic at the Massachusetts General Hospital on Monday, Jan. 13, 1902, a man was brought in from the accident room as an "emergency abdominal case." The hour had expired, and Dr. Warren gave the history somewhat as follows:

Man of thirty. Sudden pain in epigastrium Saturday night. Pain shifted to right iliac fossa. Temperature 100°, pulse 100; white count 11,000. General rigidity and tenderness, but tenderness most marked in right iliac fossa. Diagnosis: Acute appendicitis. Immediate operation necessary.

I was asked to examine. By a brief examination in the minute given me, I was satisfied that the case was acute appendicitis.

On careful examination, after the class had been dismissed, Dr. Warren's attention was drawn to the coated tongue, to sordes on the teeth, and to a general typhoidal look which the patient presented. Careful inquiry into the history showed a two weeks' malaise and headache. The white count was not reassuring. Repeated palpation showed but slight tenderness, and that deeply situated in the right iliac fossa; there was a general muscular resistance rather than a muscular rigidity—a doughy feeling not uncommon in moderate distention. The spleen seemed to me enlarged. The white count was against appendicitis, though not unusual in an overwhelming general peritonitis.

Drs. Warren, Mixter, Brewster and Greenough said "appendicitis" and advised operation at once. Dr. Fitz, too, made the diagnosis of appendicitis. I was opposed both to this diagnosis and to operation. My opinion being based upon the belief that there was no lesion calling for operation, I should have kept the man under observation for a few hours, and should have had a Widal test made. If there was any abdominal lesion, however, it was a beginning general infection, for that alone would explain the blood count, the general muscular resistance and the tenderness.

Operation showed free pus in the abdomen and a perforated appendix. A good recovery followed.

While the patient was being etherized I wrote the following opinion:

"The significance of a general doughy tenderness may be completely misunderstood, especially if it follows an attack of sharp pain in the abdomen—no matter where. Increased general resistance, a white count of 11,000, pulse 100, temperature 100°, without exquisite tenderness, raises a suspicion that the abdominal symptoms may not be dependent upon a peritonitis, localized or general. In this case here today the initial pain was on Saturday night, in the epigastrium. The patient, a man of thirty, had been "going it" for two weeks, with occasional headache. The tongue was furred; the teeth had sordes. There were no rose spots. The spleen was enlarged. Deep pressure was not quite so easy on the right side as on the left. I do not think operation necessary."

Here was an instance in which the diagnosis made, as it were, instantly, was correct, but in which a careful study of the case, continued an hour or more, led me to a wrong conclusion.

It is safe to say that operation gave the man his only chance, and that moments were precious.

Cases like the foregoing, far from adding to the equanimity with which the surgeon decides for or against operation, in an obscure abdominal case, add rather to his feelings of doubt and apprehension.

A similar case occurred several years ago in the town of Holliston. The attending physician, Dr. Haviland, called me to a case in which, he said, "the merest tyro could not but make a sure diagnosis of appendicitis." The history and symptoms suggested to me so strongly an extra-uterine pregnancy that I delayed operation long

enough to make the most thorough preparations for operation—several hours. Under the knife the case proved to be one of acute appendicitis with general peritonitis, and the patient did not recover.

A good rule to follow would be to explore in all cases in which the patient's local condition can be explained as well by a general infection as by any other lesion;—in other words, whenever, on the assumption that the abdominal symptoms are real, the patient without operation will die. If there is no immediate danger—whatever the diagnosis—await in doubtful cases further developments; and finally, never operate when the general condition is so bad that operation cannot but prove fatal.

Applying these rules to another and final case, it will be seen, I think, that the advice against operation was conservative and wise.

CASE VII. Lillian C., age seven years, a patient of Dr. William L. Richardson, I saw on Saturday morning, Jan. 11. She had been sick since the preceding Tuesday morning. She had complained of pain over a single spot in the abdomen. This pain disappeared. She then had very high temperature, with rapid respiration and high pulse, and she had been coughing for two days. The cough then disappeared. In the middle of Friday night she was seized with pain in the abdomen, and complained of suffering very severely. This pain disappeared, and she then complained of an abdominal tenderness which was severe enough to arouse serious apprehension as to the probability of an appendicitis and beginning peritonitis.

Although the case seemed to be mainly thoracic, yet Dr. Richardson felt not a little disquieted by the history of abdominal pain and tenderness. Indeed, there was only too much reason to suspect a beginning appendicitis, perhaps complicating some acute process in the lungs.

On Saturday morning I had the opportunity of examining this child. The abdomen was full, but not especially distended. There was no rigidity. The tenderness was unmistakable and definitely localized in the right side of the abdomen, and especially marked directly over the appendix. The temperature was from 104° to 105°, respiration 40. Although the respiration was not incompatible with acute abdominal disease, and, although the tenderness was, on repeated examinations, unmistakable, it seemed to me probable that the process was entirely thoracic. The whole aspect of the case was such as to make me extremely anxious for the next few hours, during which I was expecting every moment to be called to operate. The most reassuring facts were the high temperature and respiration, which, however disquieting in a pneumonia, were positively welcome in a suspected general peritonitis.

On Saturday evening Dr. Richardson found a suspicious dullness over the lower lobe of the right lung behind, and the next morning there was a well-marked pneumonia of that lobe. The area was circumscribed, and so remained. The crisis came Tuesday morning, when the temperature dropped from 105° to 99°. The respiration and pulse dropped that same evening (Tuesday). Wednesday morning everything was normal, and the child was fast convalescing.

These symptoms might well suggest an acute appendicitis, even in the presence of a pneumonia or a threatening pneumonia. This case resembles very much some of the preceding ones. I have, however, known the abdomen to be opened many times on less evidence of appendicitis than there was in this case, and the appendix found gangrenous and perforated. On the other hand,

I have never seen a case presenting obscure abdominal symptoms of appendicitis with plain symptoms of acute thoracic disease, in which the latter have not been the chief and only cause for the former.

After all, however, it may be asked whether it is well always to be so much on one's guard when acute abdominal lesions are suspected, and especially lesions in which time is of the utmost importance. I can recall a few cases in which my incredulity has been costly—when, for instance, in the fear of finding no lesion, precious time has been lost. One may err too often on the side of conservatism. May not too many patients have lost their best chance of safety for the fear of an unnecessary exploration? He takes a heavy responsibility who advises delay when the symptoms point to a general peritonitis, even if those symptoms are not quite what in typical cases they should be. Furthermore, judging by chances alone, the atypical cases which are really serious abdominal lesions vastly outnumber those which are not. The real cases of appendicitis and of general peritonitis, as compared with those of an atypical typhoid, of a latent pneumonia, or of some other unusual simulating lesion, are a hundred to one. If in cases of doubt the rule is to operate, more lives will be saved than if the rule is not to operate. Skill in diagnosis must be indeed great to omit an unnecessary operation in the one case, and to perform the necessary one in the other ninety-nine.

The diagnosis between acute thoracic and acute abdominal disease is always easy as soon as the characteristic signs of either are apparent. The chief difficulty in making a distinction is to recognize that the necessity for that distinction exists, for the thoracic symptoms are always masked by the more conspicuous and distressing abdominal ones. Once the attention is drawn to the possibility of a thoracic cause, not only for the thoracic but for the abdominal symptoms, an accurate diagnosis is perfectly easy.

VAGINAL HYSTERECTOMY FOR CARCINOMA OF THE UTERUS.¹

BY WILLIAM R. PRYOR, M.D., NEW YORK.

It seems to me that in our study and discussion of the minute details of the various operations devised for the removal of cancerous growths we have lost sight of certain essentials (if I may so term them) requisite to success. The most important of these is a consideration of the manner in which unchecked cancer of the uterus tends naturally to extend, together with a knowledge of the localities in which recurrence is most frequently found. It is significant that the localities of natural invasion and of recurrence are the same, namely, parametrium first and vagina second. We must also bear in mind that cancer of

¹ Read before the Suffolk District Medical Society, Section for Obstetrics and Diseases of Women, Jan. 22, 1902.