Compliments of the Author.

APPENDICITIS.

BY

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PHILADELPHIA, PA.

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I HAD the pleasure, some two years ago, of reading a paper on this subject before the Congress in Atlantic City. At that time the importance of the disease was not generally recognized, and the views I expressed caused considerable criticism. It has been, therefore, a source of satisfaction to note since then the change in medical opinion and that of the public generally. In fact, to-day, in enlightened circles, when the diagnosis of appendicitis is pronounced, the family want to know when an operation will be undertaken, just as the first question asked by the Yorkshire miner, when a man's head has been injured, is "when will the bore un?"

With this train of thought in my mind, after reading the request from your secretary that I prepare a paper on appendicitis, I turned to my table of operations and records, and found, to my surprise, that figures showed that the disease is not recognized in time and not operated early enough. I find that I have been called in to but few cases where I did not find it high time to operate; that I have seen but few cases in which nature did not come to the rescue, and without her the patient would have died before surgical assistance was at hand. What is still worse, I find several cases in which the operation was done too late, and a few in which a post-mortem examination or a narration of the symptoms showed that the danger was not recognized at all.

On this account I may be pardoned for taking a subject which to the majority of journal readers is somewhat trite. I have selected

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* Read before the New Jersey State Homœopathic Medical Society, September 26, 1893.

the following cases from a number I have met with since my last paper, as illustrating the different phases of the disease that have come under my observation.

Surgeons are accused, and in some instances no doubt justly, of being too prone to recommend operation. This is particularly so in appendicitis, some men going so far as to say that every case should be operated as soon as the diagnosis is made. I have therefore reported several instances in which operative interference was not deemed necessary, and desire especially to emphasize the careful and anxious observation to which they should be subjected. It would be far safer, however, to operate every case in which appendicitis is *suspected*, provided such an operation were done by an experienced laparotomist, than to keep on with the at present too frequent conservative, or, more correctly, dilatory plan of when all others fail call in the surgeon or the undertaker!

Case I.—A young lad, patient of Dr. Edwin H. Van Deusen, was taken with vomiting, cramps in the epigastric region, constipation, slight tympanitis, tenderness to point pressure over the appendix, this region being somewhat tumefied, and the abdominal wall fixed; heavily-coated tongue, showing the marks of the teeth; temperature rise of but a little over a degree and a moderate pulse acceleration. I saw him within twenty-four hours, when the attack was practically over. The bowels were then unloaded by an enema, followed by a mild laxative, and the appendical tenderness disappeared *entirely* and promptly. This was his second attack, and, so far as I know, he has had no other in the year or more that has elapsed.

This is a common picture, and would be diagnosed as an ordinary bilious attack or indigestion, were not localized tenderness looked for. It is then of the utmost importance that every case of abdominal "pain" be subjected to a *physical examination* for points of tenderness; a persistence of this symptom alone, especially without marked general amelioration, demands the closest and most anxious attention. Such an examination is far more important and life-saving than an early one of the chest for pneumonia, pleurisy, endocarditis, etc. Just such an attack may seal the patient's fate in thirty-six hours or less. That I am not an alarmist the following case will show:

A lady was taken with cramps when beginning to menstruate, and was prescribed for as an office patient by her physician. A tender tumefaction was found later on, but considered too near the middle line. Her general condition became more serious, and she

was doomed in forty-eight hours. The appendix was long and attached close to the brim of the pelvis; had become gangrenous and perforated; protective adhesions were imperfect, allowing leakage and general peritoneal infection.

Again, what did this lad die of? He was taken with cramps after going in bathing, vomited, was constipated, the belly swelled, and he was dead on the third day.

In Case I. the probable condition was a twist or kink of the little organ, an attempt to rid itself of some fæcal matter, or possibly a foreign body. The absolute freedom from tenderness afterward would lead us to infer that pathological changes in the appendix were slight, if present at all.

The question naturally arises in this connection, is such a patient doomed, sooner or later, to operation or death from this cause? If distinct pathological changes have occurred in the organ, unless perhaps it becomes completely occluded by inflammation on the inside or adhesions outside, such a termination seems probable, although death from other causes may win the race.

Case II.—A former student of mine seems to have gone through an experience of this kind. He was subject to "bilious attacks" which doubled him up with pain, and lasted about twenty-four hours. I finally saw him in one of these and diagnosed appendicitis. The picture was that of Case I., plus dysurea and retention of urine. There was no tenderness of the appendix nor tumefaction between attacks, although the former persisted for several days, and, after going through with some fifteen or twenty, he has now been free from them for over three years. Whether this was an instance of appendicular colic from malposition or twists, or whether the "catarrh" finally resulted in complete occlusion we cannot say. Such occlusion has not been produced by involvement of the peritonæum and adhesions, for no tumefaction is present. If the lumen is closed by stricture, some tenderness should be present, and, sooner or later, the resulting cyst or concretion will be heard from.

Case III. belongs to the same class, but shows the protection afforded by nature, without which the recurring attacks must have proven fatal.

A young Englishman, patient of Dr. W. W. Van Baun, had gone through with a number of attacks, in the last one of which the doctor saw him and made the diagnosis of appendicitis. The tenderness, however, persisted, and a distinct tumor could be felt. His general health was broken down, and he was incapacitated for work;

the tongue was heavily coated; the bowels constipated, with occasional diarrhœa; the skin sallow. Section showed a mass of very firm adhesions about the caput coli, between intestinal loops and omentum. By carefully separating these, and following the anterior muscular band of the cæcum, the appendix was found, teazed out, and excised. It was strictured, cystic, ulcerated, and contained a concretion. The abdomen was closed, layer by layer, and healed without reaction. The effect upon his health and local symptoms was striking.

Case IV.—S. P., æt. 50 years, had been the rounds for a persistent abdominal pain, which disabled him from work, and which was aggravated by attacks of "indigestion." The symptoms led me to hesitate between catarrhal appendicitis and stone in the right kidney. Guided by repeated examinations of the urine, and the ever present tenderness to pressure over the McBurney point and nowhere else, I suggested excision of the appendix after an exploratory section. This was readily agreed to. The appendix was perfectly free, stiff, curved forward and outward, and, in contrast with the surrounding intestinal loops, showed that it was cicatricial, *i.e.*, had been subject to a long continued inflammatory process, presumably of a low grade. Its walls were much thickened, its lumen encroached upon, particularly about one-third of the way from its base, where there was a distinct stricture. The operation was followed by relief of the pain. Nothing else abnormal was found in the abdomen.

This form is probably the most dangerous, because, when perforation takes place, it is apt to do so from gangrene or sneaking ulceration, and the abdominal cavity is not protected by adhesions. Every case of unprotected perforation I have seen has originated in such a process. The indications for operation were the persistent pain, localized tenderness, and the resulting invalidism.

Case V.—Was under my care for two and a half years while a student at the Hahnemann Medical College. He has not had an attack, but was never completely free from pain and tenderness of the appendix to pressure. The organ could be made out, the patient being quite thin, and therefore must be thickened. Whenever he gets run down, or relaxes in his attention to diet and the regularity of the bowels, there is increased pain and aching. Such an aggravation is apt to terminate with a diarrhœa. Under careful dietetic and medicinal treatment, according to indications, this condition has improved, instead of growing worse, and I have so far refused his request for operation. My reasons for this are that he has not had

a distinct attack, the condition is improving, his general health is not affected, and he is not invalided; he is thoroughly acquainted with the threatened dangers, and has been within easy reach of surgical assistance. He will never have a second attack.

Such cases are quite common, and the question of operation has caused me a great deal of thought and anxiety. Progressive character of the disease, increasing frequency of the attacks, symptoms between attacks, particularly when the appendix is not protected by adhesions as shown by tumefaction, impairment of the general health and nearness of the patient to surgical aid, are the principal deciding points.

Case VI.—Mr. W. G. W., patient of Dr. Josephine Van Deusen, was referred to me at the close of his third and severest attack in five months. The remaining symptoms were the cachectic appearance, the heavily coated, indented tongue, the constipation, slight intestinal paresis, and distinct but fading tenderness of the appendix which could be made out. Under medicinal treatment according to clear indications, attention to diet and the bowels, the tenderness is practically gone, while all the other symptoms have disappeared, and his general health has improved to a marked degree. He states that he does not know any longer that he has an appendix. Four months have elapsed without an attack, and, while this is no guarantee against future danger, it shows the value of dietetic, hygienic, and medicinal treatment, when applied with an intelligent appreciation of the impending danger. Although strongly opposed to an operation, he is willing to yield to my judgment in the matter, and I have decided to await further developments, (1) because of his hearty and conscientious co-operation in preventive treatment; (2) because both his physician and he are so thoroughly aware of the character and dangers of the affection, that a surgeon will be on hand at the very beginning of his next attack; (3) because the general tendency is toward a cure, or rather, toward postponement of attacks, disappearance of symptoms and improved health. Such cases are by no means uncommon.

Case VII.—Mrs, H. D., æt. 46, patient of Dr. A. M. Barnes, had gone through with six attacks, in the last two of which I saw her. The picture was a typical one, the tumefaction and, particularly, the pain, being the characteristic symptoms. The tumefaction persisted for a long time, while the tenderness never entirely disappeared between the attacks, the interval between the last two being the longest (two years).

Operation was undertaken principally for the persistent symptom, agonizing pain, which caused her to beg for relief at any cost, and which had kept up for over five days. Every previous attack had subsided completely in less than three days. The ordinary treatment had been carried out as before, but without relief. Palpation showed the point of most exquisite tenderness over the appendix, but the region of the gall bladder was also sensitive. Section revealed a free, erect, thickened, congested appendix, which was strictured internally. It was excised.

Remembering the gall bladder, the incision was enlarged upward, and this organ found imbedded in a mass of rather recent adhesions. Fearing a possible mistake in diagnosis, I closed the lower portion of the wound, passed a suture through the wall of the gall bladder "for future reference," packed gauze around it and awaited developments. All the symptoms disappeared, and therefore nothing further was done, the upper, open portion of the wound healing by granulation.

The question of mistakes in diagnosis in appendicitis has been elaborately emphasized (Dennis), and it behooves all of us to be on the lookout for possible errors.

In talking with a surgeon in New York the other day, he told me of a case in which he had removed a diseased appendix during what seemed to be an attack, and the patient passed a renal calculus the next day!

Another interesting case was one I operated with your secretary, Dr. F. P. McKinstry, of Washington, N. J., last winter.

Case VIII.—Miss M. J., æt. 18, was suddenly taken with pain in the right iliac fossa without apparent cause. The tumor was quite near the middle line, dull on percussion, and attached to but distinct from the uterus. The picture, however, was that of progressive peritonitis, and when I saw her, forty-eight hours after the onset, the indications were unmistakable for operation. The diagnosis made was septic peritonitis from a tumor, probably ovarian. Section showed a dermoid cyst of the right ovary, black and gangrenous, with twisted pedicle. Excision was very simple. The abdomen was cleaned out and drained, and she made an uninterrupted recovery. The points of differential diagnosis were the connection of the tumor with the uterus, the clean and firm tongue, and the absence of that intense, sickening tenderness to point pressure.

This suggests one of the saddest complications of appendicitis—a general septic peritonitis. Fortunately, the terrible mortality fol-

lowing this condition is offset by an occasional life saved by an operation done in time to arrest the process before it has gone too far, and I am glad to be able to record one of four such successes.

Case IX.—W. L. S., about 40 years of age, patient of Dr. A. M. Barnes, was seen quite late at night, when his attack was nearly forty-eight hours old. He showed the characteristic picture: Coated tongue, slightly distended abdomen and constipation; distinct tumefaction and intense appendical tenderness; temperature 102° and pulse 120. The bowels had been cautiously unloaded. Operation had to be postponed until morning, when the temperature was down to normal, the pulse reduced in frequency, and the distension but slightly increased. This increase was particularly noticeable in the epigastrium. There was, however, an anxious, very sick, almost cadaverous look about the face, and the local tenderness was very much intensified. On opening the abdomen, a quantity of offensive sero-pus gushed out, and the presence of a septic peritonitis, not limited by protective adhesions, was readily recognized. The appendix was firmly glued to the iliac fossa, but unprotected on its upper surface—gangrenous and perforated by the separation of a slough at one point. The organ was dug out and excised, and the toilet of the abdomen carried out by scrupulous wiping of the intestinal coils and parietal peritonæum with gauze pads wrung out of bichloride solution.

Under such circumstances antiseptics can be used without fear in the peritonæum, for its absorptive power seems to be arrested just as it has been proved to be satiated after free douching with salt solution. Douching the cavity under almost any circumstances, and particularly when a septic process is present, has been conclusively shown to be useless as well as dangerous.

A couple of yards of iodoform gauze were packed into the abdomen and the wound partially closed. Improvement was immediate and his recovery rapid. A week later the gauze was removed and the cavity drained with a rubber tube until it filled up to the external wound, when this was freshened and sutured.

I take the liberty of digressing just here to call attention to the value of the pack. Tait's tube drainage is fast losing ground, while his drainage by increased peristalsis is gaining. Miculicz's plan of using an iodoform gauze apron, into which are packed strips of the same material, I find of ever-increasing utility to induce protective adhesions, as a capillary drain, and as a hæmostatic measure. Once this has formed a distinct, practically extra-peritoneal cavity, the

drainage-tube resumes its sphere, for the gauze becomes clogged and dams back discharges.

In a recent case operated for Dr. W. J. Earhart, a large carcinoma of the omentum had dropped down and become attached to a matted pelvis containing pus tubes. At the close of the operation the whole basin was a raw, septic surface. The Miculicz pack was used, and after its removal the cavity was drained and kept clean through a rubber tube.

In another case, operated with Dr. J. P. Lukens, of Wilmington, Delaware, the hæmostatic properties of this plan were well demonstrated. The patient, a lady of 50 years, had a somewhat nodular tumor on the left side of the uterus, with considerable ascites. Just before operation the intra-abdominal fluid increased rapidly, and she showed symptoms of asthenia. On section, about two gallons of fluid were turned out, presenting the appearance of almost pure blood. The relief of pressure was followed by a tremendous hæmorrhage, which threatened to kill the patient on the table. A soft, probably cystic, tumor of the left ovary was made out, from which sprang an enormous papilloma, the source of the bleeding. Universal adhesions rendered the imperatively rapid enucleation impossible. Over four yards square of gauze (iodoform and, when that ran out, sterilized) were quickly packed in, and the abdomen partly closed. She made a good recovery, and there has been no increase in the growth nor any return of the ascites. Whether the plastic process will strangle the papilloma, or whether the mere opening of the abdomen will have the arresting tendency we so often see, time alone can show.

Occasionally nature will come to our assistance and prevent a general septic peritonitis by limiting the infection to some extent, giving the patient a little more grace. The following case illustrates this:

Case X.—J. W. S., æt. 23, patient of Dr. H. S. Weaver, went safely through an attack of which he had had several. Slight tenderness and tumefaction persisted, but he was well enough to go about the house by the tenth day. On exerting himself a little, he was suddenly taken with severe right iliac pain. When I saw him, there was the characteristic face, tongue, distension, and beginning vomiting, or I might say, bubbling out of fluids. To this should be added a marked condition of collapse. The whole right side of the abdomen was tumefied and dull on percussion, from the rib border to the pelvis, and as far as the median line. Incision showed

the same stinking sero-pus as in Case IX., but the left half of the abdominal cavity was shut off by very soft adhesions and intestinal coils. The appendix was imbedded in a small well-encysted abscess, and was perforated by the pressure of a concretion. The exertion had caused a rupture and the escape of the intensely infectious pus. The cavity was wiped clean and packed with iodoform gauze, and the patient made a good recovery.

Extensive as was the process, if the adhesions did not leak, this would have become a localized abscess which might even have discharged and cured itself. No matter how much of the abdominal cavity is involved, if the process is limited by adhesions, a fatal septic peritonitis is changed to a comparatively safe abscess. Pollard reports, in a recent number of the *Lancet*, the case of a child with an abscess extending from the diaphragm to the pelvis, from flank to flank, and limited by the abdominal wall anteriorly and adherent intestinal coils posteriorly. It had made a vent for itself at the umbilicus, and nature required but a little assistance in the way of drainage to effect a cure.

In the following case there was a similar abscess, but rupture was prevented by rest and careful diet. When pus is once present in or about the appendix the indication for operation is positive.

Case XI.—J. B., 65 years of age, was seen with Dr. J. N. Mitchell, on the second day of what must have been the last of several attacks. The symptoms were on the wane and rapidly disappeared, leaving a tender, distinctly outlined tumor in the characteristic location. Even the tenderness was almost gone, while the tumor was smaller but still distinct, at the end of ten days, during which time he was carefully dieted and kept absolutely quiet. He refused an operation on account of the improvement. On the day he got up, he took his first full meal, which disagreed, and was followed by vomiting, distension, and rapid increase in the tumor and tenderness. Immediate section showed the appendix attached to the posterior abdominal wall, surrounded by an ounce or two of thick, offensive pus, and firmly encysted by very dense adhesions to the omentum and intestines. It was dug out and excised, the abscess cleaned and drained, and iodoform gauze packed around the opening to shut off the peritoneal cavity. The wound healed by granulation.

Case XII.—A young man was seen with Dr. Joshua Allen on the fifth day of an attack. The course had been a sneaking one: apparent subsidence of the symptoms; relapses with the develop-

ment of two new points of tenderness and tumefaction, varying temperature and pulse, recurring and severe abdominal pain; gradual distension; complete bowel obstruction, collapse. The abdomen was opened in the middle line, and found full of stinking sero-pus; the three abscesses, one of them containing the appendix, the other two high and low on the left side, were cleaned out and packed; and the peritoneal toilet carefully made. The patient rallied for a time, but died the next day.

Every one who has had much experience with appendicitis has met with these cases. I have felt at times that no operation should be undertaken, and it would be better for the surgeon and for the cause of the proper treatment of appendicitis, if they were left alone. An occasional success, such as those reported by Miculicz, Hartley, and a few others, encourage us to try what is by no means a pleasant duty.

Some English surgeons are skeptical of what they term the American mania for removing the appendix; others, more courteous, consider the disease more prevalent on this side of the ocean. With this and similar cases in mind, I cannot but recall the statement made by Treves, in his work on intestinal obstruction, which he says is the cause of two thousand deaths a year in England. How many of these "obstructions" are the closing scene of a perforative appendicitis, with septic peritonitis, and arrested or reversed peristalsis?

Case XIII. was operated before the abscess ruptured, or infected the peritonæum. As is very frequently the case, however, it was encysted against the posterior abdominal wall, and had to be evacuated "across" the peritoneal cavity. In spite of this difficulty such cases usually do well, but when left alone are apt to result fatally.

Miss M. M. was seen on the fourth day of an attack, with Dr. C. R. Norton. The belly was distended, the temperature high and fluctuating, the pulse rapid and weak, the tongue flabby and coated, the bowels constipated, and the general appearance that of a very sick girl. There was a distinct, tympanitic tumor in the usual location, which was intensely tender to the touch.

When the abdomen was opened a large mass of adherent intestinal coils and omentum were found about the caput coli. Sterilized gauze pads were packed around the tumor to shut off the peritoneal cavity, and the adhesions separated with the finger, evacuating nearly a pint of characteristic pus. The cavity was cleaned out with peroxide of hydrogen, and then with bichloride solution, and

the appendix, not being readily found, was left alone. Iodoform gauze was substituted for the pads, and the abscess cavity tamponaded with the same material. The extremities of the wound were sutured. Improvement was immediate and continuous. In a week the packing and the protective gauze were removed, and the cavity treated as an extra-peritoneal abscess. Later on the wound was drawn together.

Case XIV. illustrates the simplest problem nature gives us to solve, and, if the endurance of the patient does not give out, she would ultimately effect a cure unaided. Fortunately, such instances are very common, and they only show how much we owe to the ever-watchful omentum and intestinal coils, which pounce on a leak as the indefatigable Dutchman mends the walls of sand that keep dry his otherwise submarine land.

W. A. B., about 35 years of age, had been treated for a number of weeks for rheumatism by a surgeon. Dr. W. K. Ingersoll was finally called in and diagnosed an appendical abscess. I saw the case with him and Dr. R. C. Smith. There was a large fluctuating tumor above the right groin, extending around to the back. This had been noticed for several weeks, and during its growth had worn out the patient with chills, erratic fever, and profuse sweats until he was in a condition that made any operative procedure a serious matter. Parker's incision was made down to the peritonæum, through which an enormous abscess was opened, cleaned out, and drained. A counter-opening posteriorly was necessary. Recovery followed a prolonged convalescence.

In conclusion, let me say that:

The patient's safety depends upon an immediate diagnosis; hours in this disease are worth more than days in almost any other.

To a correct diagnosis must be added an appreciation of the possibilities of the disease, and these become certainties in a very short time.

If such an attack does not show a diminishing tendency in twenty-four hours at the outside, the case is probably one imperatively demanding surgical interference.

Even with subsiding symptoms, peritoneal infection must be looked for.

If general, this will be shown, at first, by increasing distension, particularly noticeable in the epigastrium, by an anxious, sick look about the face, and, usually, by intensified tenderness of the appendix. Operation cannot be done too soon.

If the infection has been localized, there will be tender tumefaction, distinct and persistent, which shows that nature has saved the patient's life, but requires operative assistance. The urgency, of course, is not so great, but exertion, rough handling, increased peristalsis, or even an error in diet may cause rupture.

If rupture does not take place, a slow leakage may occur, which can set up a general peritonitis, very insidious in its course, or consecutive abscesses, both of which conditions are almost invariably fatal. The latter condition can be recognized by the development of other tender swellings, increased abdominal pain, and an intensifying picture of septic peritonitis.

Aside from this, there is the danger of systemic sepsis that may follow any abscess, particularly with such offensive contents.

While I am not quite willing to advise that every case of appendicitis be operated as soon as the diagnosis is arrived at, I am convinced that such a diagnosis makes the disease as much surgical as a suspected fracture of the skull.