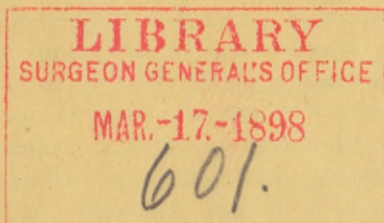


Briggs (Chas. S.)

operative indications in
appendicitis



OPERATIVE INDICATIONS IN APPENDICITIS.*

BY CHARLES S. BRIGGS, A.M., M.D., NASHVILLE.

Probably the most puzzling question that confronts the medical profession of to-day is, "When shall we operate for appendicitis?" With the great body of physicians, possibly, the question assumes a different form; as, "Shall cases of appendicitis be turned over to surgeons for operation?"

It is true that at the present time the number of physicians who doubt the necessity of operative interference in appendicitis under any circumstances grows smaller from day to day. Yet there is a class of practitioners who, because they have had undoubted cases of appendicitis to recover without operation in their hands, vigorously oppose operative interference in all cases. When the medical world learns to regard the disease as one essentially belonging to surgeons, the question will doubtless be less difficult of solution.

Surgeons are now pretty generally advocating earlier and more frequent resort to operation. It is almost accepted as an axiom in the surgical world that the most rational and scientific treatment of appendicitis is the removal of the appendix.

Richardson, of Boston, writes: "Without doubt the best treatment, could it be applied in the first hours of the disease, would be immediate exploration and removal of the appendix."

Pozzi, in the February number of *Annals of Gynecology and Pediatrics*, says: "Every time that an appendix gives rise to local or general symptoms, no matter how severe they may be, the organ should be removed without delay. Either these accidents will immediately put the patient's life in danger or, if they momentarily get better, they leave the patient with an infirmity which is often disagreeable and always menacing."

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Fowler writes: "As soon as a positive diagnosis of progressive appendicitis is assured the abdomen should be opened and the appendix removed."

Morris writes: "There are no groups of symptoms which will allow us to make a rational prognosis as to the eventual outcome or the prospective complications in any progressive case of appendicitis, and we must abandon hope of having any such classification of symptoms for a guide in the future."

The same author, in his treatise on appendicitis, says in his characteristic way: "There is but one rule to be followed, and that is to isolate an infected appendix as promptly as we would isolate a case of diphtheria. An infected appendix is isolated when it is out of the patient."

Deaver, in his work upon Appendicitis, writes as follows: "Although there may be a few cases that for one or all the reasons stated cannot, or will not, have the benefit of early operation, yet the vast majority will depend upon the physician for advice. In every one of these, unless constitutionally contra-indicated, I believe that the appendix should be removed as soon as the diagnosis has been established. I recognize the fact that a very small percentage of all cases will temporarily recover without the use of the knife, but no one can tell which case will terminate unfavorably, or which will go on to perforation and gangrene, with the train of fatal complications that is liable to follow. The best result in all cases is obtained by removal of the appendix in the beginning of the attack. Appendicitis is a surgical affection, and should be treated as such."

The foregoing are the opinions of a few of the most enthusiastic advocates of early and frequent operation in appendicitis. The success following the operation in the hands of surgeons experienced in this line of work is wonderful. Operations performed in the early part of an attack of the disease give a mortality of only half of one per cent. A stumbling-block in the way of the more general adoption of the operation in all cases is the fact that a large majority of cases apparently recover without operation.

Ewald, in an article on appendicitis in volume ix. of *The Twentieth Century of the Practice of Medicine*, writes: "Accord-

ing to the experience of general practice and the statistical results of Sabli, Rennis, Galtman, Leyden, Furbringer, Hollander, Rothe, and the majority of French physicians, from 90 to 91 per cent. of all cases of perityphlitis, taken in the widest sense, recover without any operation."

It must be admitted that such a small mortality rate is something of an argument against the operative treatment of the disease at first glance, but it loses force when we consider the fact that we can never in any given case say positively from the symptoms that recovery will take place.

Ewald says in the above-quoted paper: "We do not possess one single reliable symptom by which we can estimate the gravity of the process, *i. e.*, its probable course."

Fowler says: "There may be almost normal pulse-rate and temperature, and yet ulceration, perforation and impending peritonitis."

The writer has operated on cases in which the peritoneal cavity was filled with pus, and yet in which there were no symptoms of the serious conditions of things. In one case of the kind the patient was placed on the table with a pulse of 88 and a temperature of 99°.

It is just this absence of correspondence between the presenting symptoms and the gravity of the lesions in appendicitis that renders the necessity of operative interference uncertain. We can by no means feel assured in any given case whether the disease is simple catarrhal or suppurative. We have no reliable guide as to the actual condition of the parts involved. A tumor in the right iliac region frequently develops in the later stages of appendicitis, but its presence does not mean necessarily pus formation, nor does its absence indicate that there is no abscess. Other symptoms commonly observed—such as persistent pain and tenderness in the groin, accentuated tenderness at McBurney's point, rigidity of the right rectus muscle, vomiting, diarrhœa or constipation—however accurately interpreted, shed no more light as to the real status of the intra-abdominal trouble. In my own experience I have found it more difficult to decide when operation might be dispensed with or deferred than when it was imperatively demanded. It is a safe rule to operate when in doubt. It is

better to err on the safe side than on the wrong, and all will agree that it is wiser to operate too early than too late. Most of the fatal results have occurred when, from circumstances or from mistaken conservatism, operation has been delayed too long. I cannot recall a single fatal case in my own hands in which the result would not have been successful had the operation been done a few hours earlier. If the conditions demanding operation are not serious, the operation will not, in proper hands, prove serious. On the contrary, if grave changes have taken place, the results are apt to be correspondingly grave.

If it were possible to secure a skigraphic picture of the true state of the parts in appendicitis, I doubt not but that operations for its relief would be far more frequently performed. Here is the difficulty. No one can tell us how to make a differential diagnosis between the catarrhal and suppurative form of the disease before an abscess has actually occurred. When that can be done the problem as to what cases should be operated upon will be solved.

Nor can anyone say just what proportion of simple, uncomplicated catarrhal cases of appendicitis will make a permanent and final recovery. It is well known that one attack of appendicitis strongly predisposes to recurrent attacks, any one of which is liable to assume the suppurative form. Is not this uncertainty of apparently simple catarrhal cases a sufficient argument for early operation in every case? Granting that the surgeon who operates in every instance does an occasional unnecessary operation, when it is considered that such operations in competent and experienced hands are as nearly absolutely safe as any operation can be, and besides this, by prompt removal of the appendix patients recover once and for all from a serious disease, surely it cannot be said that such operations are unjustifiable.

A material obstacle in the way of the general adoption of the rule to operate in all cases is the position of the general practitioner, who refuses to sanction early and universal surgical operation on the grounds that patients frequently make temporary recoveries from unmistakable attacks of appendicitis. It would seem that the physician is loath to yield up to

the surgeon a disease which he thinks belongs legitimately to him until the very last moment, when the hope of recovery, with or without operation, is infinitely small.

Some writer has said that not a single therapeutic measure can be proved to exert any positive, decided effect upon the intra-abdominal lesions that take place in appendicitis. When infection has once occurred no medicine can delay its progress for a moment. The only remedy is surgical. Until, then, surgeons receive the ready and intelligent support of physicians, they cannot expect to be permitted to operate on every case, mild or severe. In my opinion, early operation and operation in every well-marked case would be the safest procedure. and yet I recognize the need of the physician's acquiescence before this can be established as a rule.

Interval operations—that is, operations done after the subsidence of acute attacks—are almost invariably followed by success, and, when circumstances permit, it is well to try to tide a patient over the dangers of the acute stage and operate in the interval; but it is difficult to get the patient's consent to submit to an operation of such magnitude when he has escaped the danger of an acute attack and is to all appearances well. Besides, in the uncertainty of acute attacks great risks are necessarily encountered, and the operation may be demanded by the progressive severity of the case. We are to study the symptoms, obscure and uncertain as they are, and operate when imperatively demanded, recognizing the fact that by so doing we are steering between Scylla and Charybdis.

In simple, uncomplicated catarrhal appendicitis exploratory section of the abdomen and removal of the appendix is the most surgical remedy and the most positive cure. With medical treatment, cases of this class may recover, only to undergo, at different periods, recurrent attacks, any one of which may prove fatal. The symptoms of this class of appendicitis cases may be almost analogous to those attending the more severe cases of suppurative and perforating cases. When suppuration has occurred, the necessity for prompt interference will not be gainsaid. The difficulty here is that no one can tell when suppuration has occurred. Ewald, in his recent article in *The Twentieth Century Practice*, advocates explo-

ratory puncture to ascertain the presence or absence of pus, but this method has little to recommend it, inasmuch as it is not a little dangerous and if used is by no means an infallible test.

In cases of appendicitis of progressive severity, in which the patient in his general appearance shows that he is seriously ill, and in which the pulse becomes progressively accelerated, gradually increasing in rate from 100 to 110 and 120, operation is certainly indicated, and should be done. The temperature may be normal, it may be elevated or subnormal, but if the pulse-rate is gradually accelerated operation is the only safe remedy. When perforation has occurred, surely no one would advise against operation. Death is almost sure in such cases without operation. One would with as much reason argue against operation for the relief of strangulated hernia as against operation for an appendicitis in the course of which perforation has occurred. Can the surgeon with any degree of assurance say when this serious complication occurs? According to most of the recent writers opinions as to the existence of this grave complication are based upon the gradual increasing gravity of the symptoms, but unfortunately the accident may occur without any accession of ugly symptoms.

In all the voluminous literature written upon the subject of intestinal perforation in appendical inflammation during the last ten years, I find not a solitary reference to a sign that I regard as infallible as indicating the existence of perforation. I refer to the loss of the area of hepatic dullness from the escape of intestinal gases into the general peritoneal cavity. This valuable sign was first made known to the profession in an article by the late Prof. Austin Flint published in the *Medical News*, Saturday, July 4, 1885, entitled "On Persistent on Percussion Over the Liver as Proof that Diffuse Peritonitis is Not Associated with Intestinal or Gastric Perforation." In this paper the author referred to a number of experiments upon the cadaver which demonstrated that the injection into the peritoneal cavity of a moderate quantity of air causes the disappearance of the flatness in percussion over the liver which is normally present. In this article, in connection with the case of intestinal perforation from appendicitis, the author

outlined the proper treatment for appendicitis with perforation in this language used in the paper: "The question may be raised whether a free incision into the abscess might not have been advisable and the perforated appendix ligated."

Tympanitic resonance over the liver does not invariably denote perforation, as it may be caused by an over-distended transverse colon, separating the abdominal walls from the liver; but persistent dullness over the liver is unmistakable proof of the non-existence of perforation. In my own practice, I have learned to look for this sign in all cases of severe appendicitis, and in many operative cases have been guided by its presence. In no single case in which there was loss of the area of hepatic dullness have I failed to find perforation. It has proven invaluable to me in determining operation in severe appendicitis. It is absolutely reliable, and should be a prominent feature in the symptomatology of appendicitis.

Associated with this important symptom is another which I have learned to regard as very useful in denoting grave intestinal lesions. I refer to the presence of an unmistakable fecal odor to the breath. In the later stages of severe appendicitis the presence of these two signs, in connection with other well-known clinical features, renders the necessity for operative interference in appendicitis absolute.

In concluding this paper, which, I fear, has already transcended its prescribed limits, I will summarize as follows:

Appendicitis is a surgical disease, and should be treated surgically. It is surgical to operate on every clearly-marked case of appendicitis in its early stage, especially if the disease shows a progressive tendency. If this were the general rule of practice, the mortality rate would be reduced to almost *nil*, always providing that the operations were done by skillful and experienced hands. If an expectant or medicinal plan of treatment is adopted, it should be carried out with a full sense of the danger of such a course the attendant being fully alive to the treacherous nature of the disease and ready at a moment's notice of danger, to substitute for such an expectant course, the more radical and more surgical method of removing the infected appendix. The expectant method may be selected in cases apparently mild, with the view of allowing

the acute attack to subside in order that the removal of the appendix may be effected in the interval period when the danger of operation is reduced to a minimum. The surgeon should always bear in mind that this second plan of treatment carries with it important complications, in that every attack increases the number of adhesions, by the extent and character of which the difficulties of interval operations may be measured. In the fulminating variety of appendicitis delay is especially dangerous. Even with the promptest action failure may obtain on account of the rapidity and extent of infection, and the almost unaccountable, extensive lesions of the parts affected, such as gangrene with perforation of the appendix. In recurrent and chronic appendicitis operation should be advised as a safe treatment, not only because the disease in many instances incapacitate its victims, but because it is a constant menace to life. When suppuration is present operation should be done without delay. The great difficulty of deciding upon this important phase of the disease is the obscurity of symptoms which indicate the presence of pus.

It must not be forgotten that the pulse rate is an important guide towards determining operative influence. Whenever, after the first twenty-four hours of the disease, the pulse gradually increases to 110 or 120, whether the temperature is high, normal or subnormal, it is dangerous to delay operative treatment. The patient's general condition should be carefully observed. If after a short time he looks ill the operation should be discussed. This state cannot be described in words. The whole attitude of the patient, together with facial expression, color of skin must be taken into consideration.

Perforation is indicated in the late stages of severe types of appendicitis by the loss of the area of hepatic dullness due to the presence of free gas in the peritoneal cavity, a sign that is infallible. When this sign, together with a fecal odor of breath is present, operation should be resorted to at the earliest possible moment.

