

this temperature was maintained, and promptly ceased if it was much exceeded. It, therefore, seems possible that failure to attend to these requirements may have accounted for the apparent lack of motility reported in these and similar cases and that both varieties will be found uniformly motile. Accurate laboratory investigation of the finer anatomy and characteristics of both ova and miricidia will do much to clear the matter up, especially if an intermediate host or means of cultivation outside the body be found.

The history of a five-year interval between the patients' residence in a probable center of infection and the appearance of symptoms is at least unusual. No record of so long an incubation period has been found elsewhere and it seems fair to assume that the condition might have been noted much earlier had his powers of observation been keener. It is at any rate interesting as showing how slight an amount of discomfort the disease may cause.

The absence of eosinophilia deserves further comment. Daniels⁷ states that "Eosinophilia may occur." On the other hand, Douglas and Hardy, quoted by O'Neil,⁸ found it present in 49 out of 50 cases studied "ranging from 1.3% to 40% and averaging 16.48%." The number of cases in which it lay under 5%, which may be considered the upper normal limit, and the presence or absence of other parasitic infections in the same individuals are not stated. Such complicating infections are notoriously common, and since in the present case no evidence of other parasites could be detected, it seems possible that Bilharziosis, if uncomplicated, may be found to show no eosinophilic increase.

The practical lesson to be learned from this case is the great importance of a microscopical examination in all cases of recurring diarrhoea or bloody stools occurring in patients who have been in the East or in the tropics, since not uncommonly the diagnosis may be established in this way where the true condition would otherwise remain quite unsuspected.

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CLINICAL NOTE ON POTT'S DISEASE.

BY GEORGE COLTON MOORE, M.D., BOSTON.

THE value, in tuberculosis of the spine, of unchanging fixation and the durability and effectiveness of a well-cared-for plaster of Paris jacket are so well illustrated by the following case, which I have had the opportunity of treating, that it seems worth reporting.

D. M., four years old, came to the Boston Children's Hospital, Out-Patient Department, Jan. 1, 1908, with incipient tuberculosis of the spine in the mid-dorsal

region. The diagnosis was established by the physical examination and by the x-ray. The child was put in a plaster of Paris jacket while lying on her face on a canvas hammock. This jacket was worn until Nov. 17, 1908, when it was removed because she had outgrown it. A new one was put on by the hammock method in two sections (1, with the hammock as taut as possible the plaster is put on up to the height of the knuckle [which in this case was very slight]; 2, then the jacket is finished with the hammock loosened so that it will sag and the child's back be hyperextended).

The child reported for observation from time to time but, although she was growing out of the top of the jacket, there were no unfavorable objective or subjective symptoms and, since it was keeping her back in good position, it was not removed until Jan. 31, 1911. It was then so small that she could not have worn it much longer with comfort, though it was still firm and would probably have been an efficient support for some weeks longer.

The note made at the time is as follows:

"Very small kyphos in mid-dorsal region, a few reddened areas from pressure. Lumbar spine shows nearly normal hyperextension. Very little motion in dorsal segment except upper 2-3 and lower 2-3 vertebrae. No muscular spasm. No psoas contraction. No extra fullness of iliac fossae. Knee-jerks lively but child's extreme nervousness may account for this."

In this case the child had, in over three years, only two jackets and obtained a result unusually good, the favorable result being, it seems to me, largely due to the fact that fixation was begun early in the disease and effectively continued with the minimum of manipulation.

The case shows, further, that ordinary plaster of Paris may be made into a comfortable "cast" that will be efficient as long as any one could wish to use it.

For permission to report this case I am indebted to Dr. E. H. Bradford, Orthopedic Surgeon to the Children's Hospital.

Medical Progress.

PROGRESS IN SURGERY.

BY E. A. CODMAN, M.D., BOSTON.

DUODENAL ULCER.

THERE is no question that the writings of Moynihan and the Mayos have aroused an intense interest as to the diagnosis and the value of operative treatment in duodenal ulcer. Even the busy general practitioner has begun to realize that many of these cases are under his care and that he must do his best to inform himself as to whether it is his duty to advise surgical consultation in his cases of "chronic dyspepsia" and "acid stomach." Moynihan¹ says that severe, recurrent hyperchlorhydria is duodenal ulcer and should always be treated by operation. He insists that recurrence after medical "cure" is the rule, and after gastro-enterostomy the exception. The medical journals are teeming with superficial articles dealing with this subject, and though they are as a rule by title on

"gastric and duodenal ulcer" instead of "duodenal and gastric ulcer," they are, on the whole, in support of Moynihan's views. A few conservatives²³ still hold out for medical treatment even in cases where the suffering of the patient is excessive. The real question has now come to the milder cases in which prompt relief from rest and dietetic treatment takes place, but in which the return to work and active life brings a return of symptoms. These cases are the old-fashioned "chronic dyspeptics" who have proverbially led sour and unhappy lives. Do these people have duodenal ulcer? If they may have ulcer or other organic abdominal cause for losing the joy of life, have they a right to abdominal exploration? There must be a vast number of patients—many of them physicians themselves—waiting for further evidence as to the answers to these questions.

In medical matters we are in the habit, like our patients, of deciding such questions by the opinion of some great man. We judge the value of this opinion rather by the financial success of the giver and the number of his patients with all sorts of other diseases than by any particular knowledge or experience he may have had with the subject in question. In the present report on our progress in the study of duodenal ulcer I shall discard, as far as possible, mere opinion and try to collect evidence. At best, from a scientific point of view, this evidence must be scanty and grossly inaccurate, as is usual with clinical evidence.

Suppose, for instance, that the government of the United States should appoint a commission, with full powers, to investigate the treatment of duodenal ulcer with such care and detail as that recently devoted to Mr. Ballinger or the Standard Oil Company. The commission might be directed as follows:

"It is alleged that in every city, and even in many of the smaller towns in this country, surgeons are subjecting patients suffering from troublesome dyspepsia to exploratory abdominal operations with a view to making an artificial opening between their stomachs and intestines in case evidences of duodenal ulcer are found. It is further alleged that if they find no such condition they remove the appendix and expect improvement. You are directed to examine into such evidence as they can furnish to explain their position. It is particularly desirable to know whether such patients can be helped as much by rest and judicious medical treatment as by operation."

The committee would take council together, and some such remarks as follows would ensue before they went to work.

A. "Why, I've known plenty of people with dyspepsia and they've got over it all right without operation."

B. "That's all very well, but I've suffered with it for years and tried everything. I'd be very glad to go through an operation to get rid of it any time."

A. "You—you're as tough as a pine knot; you look all right."

B. "Well, you don't know how I *feel*."

C. "My wife's mighty miserable with dyspepsia. I'd give a thousand dollars to any man that would cure her with or without an operation."

D. "Well, send for some of the experts and let's hear what they have to say. I understand that the Germans are very accurate about medical statistics. Let us confine the discussion to those cases in which a diagnosis of duodenal ulcer or gastric ulcer is made and ask Professor Leube, of Wurzburg, what have been the results of medical treatment at his clinic."*

Professor Leube.⁵ "Of 627 cases of stomach ulcer (bleeding and not bleeding) which in the last eleven years have come to treatment in my clinic and in my private practice,

568 = 90% were cured.

475 or 76% were cured in less than five weeks and 91 = 14% in more than five weeks.

53 = 8.5% were improved.

6 = 1% remained unhealed.

2 = 0.3% died of hemorrhage."

Professor Leube might add (if he were willing) that the statistics of his friend, Professor Lenhartz, are nearly as good, although the character of the treatment he advises is different.

Mr. Moynihan would then be called and the commission would say: "Mr. Moynihan, we understand that you are mainly responsible for this universal search for duodenal ulcers which is going on all over the world. Probably at this minute there are many surgeons standing knife in hand and using your name as authority for what they are about to do. In a single month these hundreds of surgeons are either doing good or harm to more individuals than you alone could operate on in the rest of your life. You⁴ first recognized that duodenal ulcer gives a definite, clear-cut set of symptoms. You⁴ first advocated gastro-enterostomy as a practical cure. It is *your* name that every writer on this subject quotes. What is your evidence that you dare advocate surgery in the face of such statistics as those just presented by Professor Leube?"

Mr. Moynihan could answer as follows: "In the first place, the actual *permanent* results of my operations show nearly as well statistically as Professor Leube's *immediate* results. So do those of my friends, the Mayos, who in their great operative clinic have tried out my principles with slight technical modification in a thousand cases. There is my book which gives in detail my cases with their physicians' names and addresses. And now with double the number of cases and still lower mortality I am reinforcing my evidence with more case reports in a second edition. Can you show me any such detailed evidence for medical treatment which gives the results after the lapse of years? You will see by my reports that many cases had had previous futile medical treatment. Professor

* Since it is impossible to make a certain diagnosis between ulcer of the stomach and duodenum without operation and since at least two-thirds of the cases hitherto diagnosed as gastric ulcer are probably really duodenal, we must admit that Professor Leube's figures are as applicable to one as to the other. This great obvious inaccuracy shows how unsatisfactory such figures actually are.

Leube's cases are *immediate* results, dated at the time his patients left the hospital; most of them may have by this time relapsed and even though living and working are probably *suffering*. To my mind, the object of this operation is not only to save life, but to make it endurable. Can you find in medical literature a detailed account of the end results of these medically cured cases? These cases on which I have operated and advised others to operate have *tried* medical treatment and *failed*. In Professor Leube's 627 cases the diagnosis was probably wrong in a large per cent. Mine are all proven by operation or autopsy."

After further investigation of various experts the committee would arrive at the conclusion that there really was no more evidence of importance to be found in all medical literature. Occasional groups of cases would be reported which had been treated either medically or surgically. (references 6, 9, 13, 16, 17, etc.) The more detailed the reports, the higher the mortality would be found and the lower the per cent of cures. Probably as fair a report as any on the operative side would be that presented by Bettmen and White,⁸ of 150 cases (operated on during the pioneer days of gastric surgery) by different surgeons, in which the immediate mortality was 10%, the late mortality 4%, while 58% were well, 6% much better and 22% no better. The committee would be obliged in the end to balance up the arguments *pro* and *con* as follows:

PRO.

The possible finding and removal of a chronic appendix or other abdominal offender.
The satisfaction of a definite diagnosis.
The relief of symptoms by gastro-enterostomy if ulcer is found.
The lessening of grave danger from perforation, hemorrhage and stasis.
Decrease in the chance of malignant disease.

They would probably be able to divide up their experts pretty evenly on the two sides as far as the general question is concerned, but when it came to the point of decision in an individual case, there would be less chance for variation of opinion. For instance, in perforation there would be absolute agreement among physicians and surgeons as to operation. In cases of stenosis of the pylorus where medical treatment had been tried for a long time and *failed*, there would be no disagreement. In cases where there was evidence of stenosis and yet the patient's condition was sufficiently good for any surgical operation, there would be no hesitation among surgeons, and very little among internists, in advising gastro-enterostomy even if the patient were improving. In the case

of a patient with acute hemorrhage, in whom the general condition was so bad that operation itself would be dangerous, all surgeons would agree to hand the case to their medical colleagues. In the case of hyperacidity with no stenosis and no hemorrhage and in good general condition, the greatest disagreement would be found. The committee would be able to find no evidence to speak of even in Moynihan's book. He reports only about 30 such cases. On the negative side, if the committee went into the records of all the large hospitals, it would find numerous cases of this kind in which exploration had been done and no ulcer found, but in medical literature these failures are not reported. The committee would find a sufficient number of isolated reports of cases in which gastro-enterostomy had been done for the sake of symptomatic improvement when no ulcer had existed, to show that such an operation does harm and is not justifiable. Eventually they would have to take the opinion of some one as to the individual case of hyperacidity and that opinion would have to be formed by the balance of the *pros* and *cons* as represented in the above table and applied to the circumstances in which that individual was placed. The inter-relations between the operative risks, the qualifications of the surgeon operating and the amount of suffering exhibited by the patient would vary in each individual instance. To the writer's mind, this matter of the amount of suffering of the patient is the key to the whole question

CON.

The chance of a negative exploration.
Operative risks — anesthesia, hemorrhage, hernia, etc.
The danger of gastro-enterostomy *per se*.
Making matters worse with adhesions.
If gastro-enterostomy is done { Vicious circle.
Jejunal ulcer.
Retro-gastric hernia.
The danger that it may lead to undreamt-of complications in future years.
The danger that it may give no relief or only partial or temporary.
The danger of employing a poorly qualified surgeon.

A man suffering from the symptoms of chronic hyperacidity may be so miserable that he would gladly submit to greater risks than the operation of gastro-enterostomy offers could he be assured of relief if he survived.

We will next suppose that the committee are able to secure as expert that impossible being, an unprejudiced and fair-minded surgeon, who had given up practical surgery to turn to practical medicine. After this person had had an opportunity to familiarize himself with the entire recent literature (we have reviewed forty-nine of the three hundred and twelve articles published since June, 1909) of the subject, the committee might examine him as follows as to the different arguments *pro* and *con* in the above table.

Committee. — Is there any evidence to show that chronic appendicitis might cause symptoms of indigestion similar to those of duodenal ulcer, and if so, as to whether the removal of such an appendix will also banish such symptoms?

Fair-Minded Surgeon. — If the unanimity of opinion among surgeons and physicians can be considered evidence, there is no doubt about these facts. If you require me to furnish you detailed reports, I shall have to make a collection from hospital records because I find no reports of large series of such cases in medical literature. Personally, I have known numerous cases and I believe that any experienced medical man or surgeon whom you may ask, would say the same.

Com. — You believe, then, that in the case of an individual suffering from indigestion the risk of the operation of appendectomy is justifiable to relieve his discomfort?

F. M. S. — I do, and it is generally admitted to be even by many conservative physicians.

Com. — In case the surgeon also makes a negative inspection of the stomach, duodenum and gall bladder, what are the additional dangers to the patient?

F. M. S. — The time of the operation is prolonged slightly; the wound must be somewhat larger and hence the ultimate danger of hernia and troublesome adhesions are somewhat greater. From a statistical point of view it would be impossible to give evidence on the degree of this additional danger, but every surgeon will admit that it is to be considered, although it is very, very slight. On the part of the surgeon, the degree of his operative skill, his experience with abdominal living pathology, his conscientious attention to detail and his executive capacity to get good "team work," all count in reducing these dangers. If the patient be a good "surgical risk," the chance of any — even trivial — complication from such additional exploration would be in the neighborhood of 1%. In other words, it would require but little increase in the severity of the patient's symptoms to justify the increased risk.

Com. — Do you believe that the risk of an exploratory abdominal operation is so slight that such an operation is justified merely to enable the patient to learn definitely whether he has or has not any organic abdominal disease?

F. M. S. — This would depend on the degree of pain and discomfort which the patient suffers. In the case of great suffering, such an exploration would undoubtedly be wise; from mere curiosity, it would, of course, be foolish. The degree of the suffering of the individual case would determine the question. If a patient wishes such an exploration, he certainly is entitled to have it done if he is willing to endure the known pain of operation. His imagination will surely picture the risks as greater than they actually are. Human nature is such that this factor of satisfying curiosity has great weight with most people.

Com. — In case a duodenal ulcer is found, what is the evidence that the symptoms caused by it are likely to be relieved by gastro-enter-

ostomy, provided the patient survives the operation?

F. M. S. — The relief is immediate, striking and permanent in at least nine tenths of the surviving cases. This is attested by at least a thousand scattered case reports besides the thousand, (references, 8, 13, 16, 18, 19, 20, 21, etc.) given by Moynihan and the Mayos.¹⁵ You may find in any large hospital additional case reports which have not been published, and every surgeon will tell you of the great satisfaction which he has had from those of his cases which have survived the operation. Even the medical men, who are opposed to surgical treatment of ulcer, will admit that when safely and appropriately done, the relief of symptoms is very satisfactory.

Com. — As to the lessening of grave danger from hemorrhage, perforation and stasis, what have you to say?

F. M. S. — The evidence on this point is very meager. In the first place, there is no evidence to show how often ulcers bleed or cause stenosis. In the *opinion* of different authors, these results follow in from 1%⁷ to 50%²² of all the cases. There is no possible way of determining the natural history of such cases, for undoubtedly duodenal ulcer may exist without causing noticeable symptoms and may heal without leaving noticeable scars. The relatively small number of cases which have been followed for five years after operation makes any statistics as to the lessening of this danger by operation almost worthless. On theoretical grounds, the danger should be less after gastro-enterostomy as far as the ulcer itself is concerned, but greater since there is a fresh possibility of jejunal ulcer. Scattered cases have been reported where autopsy years after gastro-enterostomy have shown the ulcer still open. Time enough has not yet passed for the successful cases to have died and furnished autopsy evidence of healing. The "cure" may be merely symptomatic.

Com. — As to the decrease in the chance of malignant disease?

F. M. S. — Evidence as to this point is unobtainable at present, as far as ulcer of the duodenum is concerned, and even in the case of gastric ulcer,²³ the argument that gastro-enterostomy would decrease the chances of malignant degeneration is a negligible one. Such an argument cannot be used for gastro-enterostomy at present, but it is a very strong one in favor of excision of the ulcer.¹¹

Com. — Let us now hear what the evidence against operation is. What is the chance of such exploration being negative in its results?

F. M. S. — The evidence on this point is very scanty, but I will admit, and every other surgeon will admit in conversation, that in a few cases he has done an exploration without finding any satisfactory cause for the symptoms. As the appendix is nearly always removed, an absolutely negative operation is very rarely performed.

Com. — As to operative risks, anesthesia, hemorrhage, hernia, etc., are these any greater in operations for digestive symptoms than in any laparotomy?

F. M. S. — When the patients are “good surgical risks,” with no organic disease and not depleted by hemorrhage or starvation, exploration of the stomach and duodenal region offers no especial risks and is negligible in the hands of a first-rate surgeon under good hospital conditions. The risk varies directly with the condition of the patient and with the ability of the surgeon.

Com. — As a matter of operative technicalities, does the operation of gastro-enterostomy in a “good surgical risk” add greatly to the danger?

F. M. S. — There is good evidence to show that this operation adds but little to the risk. In the hands of experts, even including the bad risks, the mortality is about 2%.

Com. — If the exploration is negative, do the adhesions following laparotomy make the prognosis worse for the future?

F. M. S. — There is no question that adhesions following such operations may produce unfavorable and even dangerous results. It would be possible to collect cases from the literature where this has happened, but it would be impossible to give any absolute figures as to how frequently such complications occur. It is in this matter that the skill of the surgeon probably counts more than in any part of the exploratory operation except in the recognition of the living pathology. If the operation is quickly, gently and skillfully done, the danger of troublesome adhesions is very slight, probably not greater than the risk of anesthesia.

Com. — If gastro-enterostomy is done, can you give any figures as to the likelihood of vicious circle, jejunal ulcer (10-14) and retro-gastric hernia?

F. M. S. — These complications probably have occurred much more frequently than one would suspect from the reading of articles in the medical literature. For instance, I have myself seen a number of such cases in the hands of other surgeons which I know have not been reported, and I know from conversation with other surgeons that they would say the same thing. In all these cases with which I am familiar, the operation was improperly performed, and I may say that I do not know personally of a single case where any of these complications occurred where a modern posterior no-loop gastro-enterostomy was done for ulcer after the manner of either Moynihan or Mayo. In the reports of these experts these complications are shown to be bugbears of the past, because the technical ways to prevent their occurrence have been found by experience. These pioneers have made it possible for the general surgeon of to-day to avoid these dangers if he will visit their clinics and learn their methods.

Com. — Is it possible that this operation, by altering the physiological conditions in the intestines, may produce complications which at present we do not suspect? In other words, do you believe that a patient on whom gastro-enterostomy has been performed is as likely to resist the wear and tear of life as well as one on whom it has not been performed?

F. M. S. — In medical literature there are a

good many cases reported in which gastro-enterostomy was done for the relief of *symptoms only* when no definite lesion of the stomach or duodenum was found. The majority of these cases have been unsuccessful, and in most instances the patients have actually been made worse, so that operations have been done to re-establish the normal condition, and in some cases this second operation has produced permanent relief. It is highly probable that if you investigate the individual records of surgeons and large hospitals you will find a large number of such cases which have never appeared in print, but, like “vicious circles,” are unfortunate steps which have been necessary to progress in this branch of surgery. These operations show that gastro-enterostomy may do harm.

On the other hand, there is now accumulating a considerable number of cases (in the neighborhood of 200), which have remained perfectly well for over five years since the operation was done. Theoretically, it may be said that such tampering with the physiology of the intestines would be likely to interfere with the general health of the patient, but practically there is no evidence of this when patients have a definite ulcer. On the contrary, there is good evidence to show that these patients gain more resistance by the relief of their pain than they lose by changes in their digestive physiology. That the bowels become more free is a common observation after this operation, but in most cases this change is a happy one. The average weight may be at a lower or higher level after operation. These changes show that the physiology of digestion and absorption are altered, but on the whole that they tend to increase the patients' comfort not to diminish it.

Com. — Suppose that an ulcer of the duodenum is found which does not cause stenosis of the pylorus, and gastro-enterostomy is done, is the relief complete, or may it only be partial or temporary?

F. M. S. — Even the best operators report a certain percentage of failures, which may be due to this cause. The method of infolding the ulcer and thus blocking the pylorus probably is an improvement in this respect. At any rate, the chance of failure probably lies between the evidence offered by Moynihan of “not improved, 9.6%, doubtful improvement, 0.5%, no improvement, 0.5%”; and the statistics of Bettman and White in which 6% were much improved and 22% no better. (This is a maximum, for doubtful and improper cases are included.)

Com. — In the matter of the danger of employing a poorly qualified surgeon, are there any reasons why a surgeon should be especially qualified to do gastro-enterostomy in cases of duodenal ulcer?

F. M. S. — There is no doubt that in the hands of expert surgeons who have taken an especial interest in the study of this disease, the results have been better than in the hands of expert general surgeons who have not had especial experience in stomach surgery. On the other hand,

there is very little doubt that this difference is more due to the matter of early diagnosis and knowledge of the local pathology than it is to the difference in operative skill. Provided the diagnosis of duodenal ulcer can be made with certainty by the medical adviser, the surgeon whom he should ask to operate need be but a fair handicrafts man to do the operation of gastro-enterostomy. Statistics cannot show this point because the advance in the general knowledge of the disease and the improvement in technic have gone on so fast. A patient undergoing gastro-enterostomy for duodenal ulcer would be safer to-day in the hands of a surgical interne than he would have been ten years ago or even five years ago in the hands of a celebrated surgeon. During the last decade the pioneer work in stomach surgery has been done and gastro-enterostomy is to-day a safe and satisfactory operation. Nevertheless, it is imperfect and may at any time be superseded by a better method. It is in the possibility that exploration may reveal an ulcer or cancer of the stomach necessitating gastrectomy that an inexperienced surgeon need be feared. Even in this operation the Mayo technic is so definite that any careful operator may have success in "good surgical risks."

After deliberation, the committee would compel the expert to make the following answers:

Com. — You say that the best evidence which you can find¹² shows that the mortality from a given attack of duodenal or gastric ulcer is distinctly less under medical treatment than it is under surgical treatment.

F. M. S. — I do.

Com. — You also say that the mortality in surgical treatment occurs practically only in cases which are "bad surgical risks"?

F. M. S. — I do.

Com. — You also say that the evidence is greatly in favor of surgical treatment as a *permanent* cure?

F. M. S. — It is.

Com. — You tell us, then, that the weakness of the medical treatment is that the symptoms of the disease frequently return and that the strength of the medical treatment is in the low mortality in the severe cases (with hemorrhage etc.) And you like wise tell us that the weakness of the surgical treatment is only in the high mortality in the severe cases and its strength is in the fact that its cure is more permanent.

F. M. S. — Yes.

Com. — Does it not follow, then that the best results as to both mortality and certainty of cure would be obtained if the severe cases which are "bad surgical risks" were always left to medical treatment until they become "good surgical risks"?

F. M. S. — Yes.

Com. — To put it in other words, it is not the surgeon's duty to operate on cases of duodenal or gastric ulcer which he thinks are in a condition so doubtful that the operation may be fatal, and, on the other hand, it is the physician's duty, after he has carried a patient through an

acute attack and is about to discharge him from his care, to inform the patient that if he wishes to be *permanently* cured he must seek the help of the surgeon. In other words, it is the physician's duty to build the patient up *for* the surgeon, not to keep him *from* the surgeon. And it is not the surgeon's duty to make desperate attempts on the semi-moribund cases. If the physician wishes to shift the burden of the "bad surgical risks" to the surgeon, he must show that the mortality from medical treatment is *greater* in such cases than by surgical treatment, and, on the other hand, if he wishes to keep the cases which he has "cured" from the surgeon, he must show that his statistics of permanent cure are better than those of the surgeon. The burden of proof seems to be on the medical side of the question. . . .

It is probable that the committee would add some such remarks as follows to their report:

The committee in closing wishes to state that they are astounded to find how little effort is made on the part of famous hospitals to trace the end results of their patients, especially when these patients have been treated by medical means. They fail to see how eminent physicians can make public claim to get better end results than Mr. Moynihan reports and yet be unable or too negligent to report these results in detail.

They earnestly recommend that the trustees of institutions which pretend to set an example to their communities should devote a portion of their funds to recording the late results of the treatment furnished by their medical and surgical staffs, not only in this disease, but in all others.

P.S. — The writer is indebted to Dr. G. W. Morse for great help in the review of the literature of this subject.

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