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DIAGNOSTIC PITFALLS IN GASTRO- INTESTINAL DISEASES*

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This paper is presented neither from the standpoint of originality nor with a view of criticism, but to call attention to frequent errors in the diagnosis of gastro-intestinal diseases. C. W. McClure, of Boston, truly remarks that there is perhaps no field in medicine more burdened with unproven theories than that of the diseases of the gastro-intestinal tract. Cabot's remarks on dyspepsia are more critical in tone. He states:

"We must learn to be familiar with the fact that when patients complain of their stomachs they are generally free from gastric disease, because the patient's own well meaning efforts go very far to mislead us."

It is a fact that often errors in recognizing the real state of affairs are the results either of laying too much stress on the stomach manifestations or misinterpreting them. Not infrequently we fail to perceive the light of truth, being misled by our laboratory guides, or the early use of therapeutic measures including diet, which mar the valuable symptoms. Our aim should always be to establish the underlying cause. Like the well trained criminal lawyer who listens attentively to the story of the crime and only when

it is clear in his mind, turns his attention to find evidence to substantiate or break the story, the gastroenterologist should be skilled in obtaining a true and correct story of a given case. This is the first important step. To permit a layman, unless well trained, to take a history is not a wise policy. A shriveled up gall bladder, containing one or more stones lying hidden under a large liver and covered by a heavy garment of fat, will often escape undetected even the expert palpating hand, but will often be suspected by an attentive ear and vigilant eye. Gastric analysis is by no means the tower of strength and the determining agent in locating the existing abnormality in the closed box—the abdomen. The latest investigations of Rehfuess are revolutionary to our accepted views and we must submit to newer conceptions on the subject. The longer I analyze gastric contents, the more I develop an underlying feeling that perhaps I am sailing under false colors. There is however no room for faithlessness nor for hopelessness; it is very necessary to keep the judicious and critical mind sifting the truth from carefully collected historical, clinical and laboratory facts.

That the clinical side of a given case is often of greater importance than the laboratory report can be demonstrated by the following most interesting cases which came under my observation during the past year:

*Read before the Southern Gastro-Enterological Association, meeting conjointly with the Southern Medical Association, Fourteenth Annual Meeting, Louisville, Ky., Nov. 15-18, 1920.

Case 1.—W. H. F., age 46, white, male, fruit inspector by occupation, became ill in June, 1919, with temperature, chills and upper ab-

dominal pains. I was called to see him in consultation, in September, 1919, and obtained the following history: Father died at age of 77 from apoplectic stroke, mother age 75 still living and subject to asthmatic attacks; three brothers, aged 54, 51 and 34 are living in good health; one sister died during epidemic of influenza in 1918 and one living and in good health. Past illness: measles in early childhood, hay fever at age of 21, was cured and no recurrence since. In 1907 while working in Mexico, he contracted a primary lesion and took active treatment with mercury and iodid for over 2½ years, for four years he was purser on a steamship and visited Mexico, San Domingo, Cuba, Jamaica and Spanish Honduras. During that period his health was perfect. No history of dysentery could be elicited. He was positive that up to the present illness he did not have a single day of loose bowels or abdominal cramps.

His present illness began on June 29, 1919, with chills and fever toward evening and upper abdominal pain. For a period of about two months he was treated without any definite diagnosis. In August, 1919, he was admitted to a hospital for observation, where he remained for ten days. A probability of paratyphoid was considered at one time. Three times in three different laboratories his blood for lues received a positive verdict. He continued to lose in weight, was running an irregular low temperature and suffered from upper abdominal pain; his bowels during his long period of illness did not give him any trouble. In the early part of September, 1919, he began to notice a swelling in the epigastrium. I first saw him on September 15, 1919, and on examination, there was a visible fullness in the epigastrium having a distinct connection with a very large liver which was smooth on palpation. He had a cachectic appearance; his temperature was 100.4; a cystolic blow with slight hyper-tension; his lungs were negative; reflexes normal; pupillary reaction normal; urine negative. Blood showed a leucocytosis with a neutrophilic increase. On palpation the visible mass felt soft to the touch and as if there was a collection of fluid. From the evidences gathered, I strongly suspected a liver abscess probably in the left lobe, resulting from breaking down of gummatous liver tissue. During the following night, he applied hot poultices to the mass for relief of pain. During the early morning hours he suddenly felt as if something broke loose and from that moment on the pain was gone. The following morning to my astonishment, the bulging of the upper abdomen, particularly the epigastric region, had vanished. I passed a tube into the stomach to make a gastric analysis and to ascertain if a liver abscess had not possibly ruptured into that viscus. The contents obtained was nothing else but pure pus and blood of a chocolate color; no ameba could be found microscopically. An x-ray showed very suspicious evidences of a liver abscess rupturing into the stomach. His blood showed a strongly positive Wassermann. The surgeon advised against an operation, believing that the abscess would drain well through the stomach. The internist was of the same

opinion and they both advocated the use of arsphenamin and very heavy doses of mercury and KI. From September to January, 1920, six doses of arsphenamin, 60 rubs of mercury and KI 60 drops three times a day were given without any results whatever. The pus drained through the stomach for a period of about three weeks and then stopped. His original weight of 187 was reduced to 131½ lbs. In spite of the heavy antiluetic treatment, I could not obtain a negative Wassermann, nor was there any marked reduction in the size of the liver. I finally persuaded the surgeon to operate, and on January 15, 1920, a large left liver lobe abscess was drained and the vegetative ameba histolytica was found microscopically. The patient made an uneventful recovery and is at present in perfect health, weighing 163 pounds. The interesting point in this case is that after the abscess was drained, the Wassermann test made three times once a month was found to be negative. I believe that the positive reaction was possibly due to the absorption in the blood of the liver debris and pus, as the presence of lipid bodies will often give a positive reaction.

Case 2.—I was recently called to see a hopeless and dying middle aged woman suffering from severe abdominal pain, inability to retain any kind of food, even liquids, giving a history that for over a year she had suffered from attacks of epigastric pain and vomiting spells. About 15 days prior to the onset of the last attack, 2½ decigrams of arsphenamin was administered because her blood gave a strongly positive Wassermann reaction. She was intensely jaundiced, the liver was greatly enlarged and very hard on palpation. On examining the heart, there was a mitral blow. Her lungs were negative; no glandular enlargement. She was highly emaciated. The epigastrium was extremely sensitive to touch and very rigid, the feces and urine showed evidences of blood, the urine also gave a positive arsenical test. Arsenical poisoning was considered as a cause of her vomiting and abdominal pain. Her temperature at that time was 101; pulse rapid and thready, white cell count 26000 and 91 polys; no blood in gastric contents and free HCL present. I made a duodenal tap and with difficulties I obtained a tablespoonful of very green mucopurulent substance. From these findings, it was very evident that we were dealing either with a liver abscess or a collection of pus in the gall bladder (empyema vesicae felleae). I advised a laparotomy, which was performed under local anesthesia. Patient was in a moribund condition, her pulse while on the operating table reached 160. A very much distended gangrenous gall bladder full of pus and gall stones was found. The common duct was also blocked with stones. The moment an attempt was made to loosen the adhesions, the gall bladder ruptured, being in such an advanced stage of disintegration. I am glad to report that the patient is improving. A thickened pylorus was also detected by the surgeon. I have not as yet had an opportunity to investigate the luetic side of the case.

The frequency of gall bladder disease as a factor in disturbing digestion is a well known fact. In my experience, the gall bladder is the commonest offender of the digestive apparatus. Patients, as a rule, cannot distract their attention from the stomach as the seat of the trouble and only the alertness of the gastroenterologist will reveal the true nature of the offense. The gastric analysis in such cases is not of material aid. I agree with Fravel (Am. Jr. Med. Sc. Apr. 1920), who argues against the dogmatic teachings of our medical leaders that hyperacidity is the rule in gall bladder disease, probably due to irritation of the vagus nerve in some way. In 61 cases of gall bladder disease, with or without stones, proven at operation, Fravel found a gastric subacidity. I found in a number of cases of gall bladder disease, a subacidity more frequent than a hyperacidity. The latter was present only when a chronic appendix was associated with it. We must admit, however, that we cannot make a diagnosis of gall bladder disease by the gastric analysis curve. The duodenal tap which should be practiced as often as a gastric analysis, will be of considerable aid. To make a gastric analysis and neglect the examination of duodenal contents and bile is like finding a hypertension and omitting a urinalysis for evidences of nephritis. I do my gastric analysis with a Jutte tube or one of my own design, introducing it through the nose with least discomfort to the patient; when the gastric analysis is completed, I wash out the stomach and introduce the tube to the pyloric mark. Patient is then put in the proper position and duodenal contents and bile are obtained.

I have observed in a number of gall bladder cases the following characteristics: a history of a more or less persistent nausea or sick feeling, drowsiness after a meal and a low systolic pressure. The last one is of particular interest to me. I have noticed that low blood pressure in young individuals between the ages of 30 and 40, well nourished, with no cause to account for that peculiar low pressure but a probable absorption of infection from the gall bladder. Riesman and Cheney demonstrated several years

ago the close relationship between gall bladder infection and abnormal cardiac conditions. It is also of interest to note that with the improvement by treatment of their gall bladder symptoms, the blood pressure rises. I hesitate to commit myself to a diagnosis of gall stones even with a history of periodic sharp pains under the right costal arch. An over-distended gall bladder with a blocked common duct outlet by mucus or inflammatory exudates, will give rise to the same symptoms as stones. The following case illustrates this point:

Mrs. M. H., 53, with a negative past history, began to complain of nausea, lack of energy, loss of appetite and loss in weight. After four months of ill feeling, she began to suffer from violent periodic attacks of epigastric pain and finally daily vomiting. For a period of six weeks she vomited daily after each meal. The pain was so severe that large doses of morphia were required to quiet her. The attacks would come on about twice a week. In the intervals there was a constant soreness in epigastrium. There was a marked icteroid tinge of skin and eyeballs, the epigastrium was very sensitive to touch and rigid, blood pressure was low, temperature normal, urine was negative, gastric analysis showed a subacidity. I saw the patient during an attack, and the suffering was so great that it required three doses of morphia to relieve her. The evidences were very strong that I was dealing with a case of gall stone colic, and I advised surgical interference, but patient refused. I then decided to try the duodenal tap and drain off bile. I succeeded in obtaining about eight ounces of a thick, black, molasses like substance. The immediate relief was remarkable. I continued this method of treatment for a month, using it three times a week. The vomiting ceased after the first medical drainage. The improvement was rapid. Patient began to gain in weight and has had no recurrence of her former trouble for a period of eight months. Total gain was 30 pounds.

To differentiate gall bladder pain from gastric or duodenal ulcer pain is quite a task. The persistence and regularity of nocturnal pain and the relationship to food, so strongly emphasized by Riesman, did not bear out in my following two cases:

Case 1.—Patient, a middle-aged man, gave a history of severe abdominal pain coming on regularly at night, cramp like in character, relieved by taking a glass of milk or a slice of bread, with very short intervals of rest. This has been going on for a period of one year. There was a tender spot in the mid-epigastrium. The gastric analysis, made six times, never showed free HCL less than 70; the Wassermann was negative, without any other evidences to suspect lues; his occult blood was on several occasions negative. The

x-ray reported marked filling defect on lesser curvature, suggestive of prepyloric ulcer. He was given the benefit of treatment for ulcer with a short period of relief and a return of the symptoms. As there were evidences on two occasions of food retention for 24 hours and a second x-ray picture made three months after the first showed again a definite filling defect in the lesser curvature of the stomach just behind the pylorus, evidently an ulcer cavity, an operation was advised. The true nature of the trouble was revealed—a chronic gall bladder with adhesions and a chronic appendix. The fundus of the stomach and pylorus were perfectly normal. Patient is well.

Case 2.—The history was of nightly pains waking him up, relieved by food. A very high acidity was found with an x-ray interpretation suggestive of ulcer. The occult blood was negative, the duodenal tap showed an unmistakable case of chronic cholecystitis. Atropin was given for a period of one week and a second x-ray made was found negative for ulcer. The medical drainage of the bile gave the patient considerable relief but he was anxious to rule out the possibility of malignancy and insisted on an exploratory laparotomy. A chronic cholecystitis was found. The surgeon drained the gall bladder filled with the same character bile as obtained medically. The stomach and pancreas were found normal.

The above cases illustrate Rolleston's contention (Br. Med. Jr. Mar. 26, 1920), that pericholecystic adhesions lead to interference with the passage of food from the stomach and even to deformity of that organ, hence a misinterpretation by the x-ray.

Rolleston further says that there are four factors in the mechanism of producing dyspeptic symptoms associated with disease of the gall bladder and of the appendix: reflex, mechanical, toxic and infective. Infection of either organ may originate from septic foci in the mouth, tonsils, and nasopharynx and bacteria from those sources may infect the kidneys, especially the right one. This point is well emphasized in the following case:

E. P. H.—Farmer, 37, gave a history of gastric disturbance for past year with usual symptoms of indigestion. He complained principally of pain under the right costal border radiating to the right lumbar region; nausea and drowsiness annoyed him considerably; in the last eight months he had four distinct attacks of severe pain in the right lumbar region. He was advised to make a picture of gastrointestinal tract which was found to be negative. On physical examination, the following points were of importance to me: a severe pyorrhea with decayed roots of upper incisors and canine teeth, the gums were ulcerated, there was a distinct icteroid tinge to the skin and sclera and sensitiveness on pressure in the gall bladder region. The pain in the back was too low for Ewald's area of hyper-

esthesia. There was also a slight hypertension, sys. 148, dia. 84, and a murmur in the mitral area. The urinalysis revealed an essential phase of the case: albuminuria, pus and red blood cells. I advised an x-ray of the right kidney. A large stone in the right kidney was plainly visible on the plate. I believe in this case the original focus of infection was in the teeth, that it gave rise to a chronic cholecystitis with a complicating cardiac lesion and an end product, a right kidney stone.

The foregoing and many other examples, including gastric carcinoma in young individuals, show that while we may limit our practice to gastroenterology, the treatment should be based on a thorough and complete examination of the whole body. A particularly careful history is essential. It often prevents stumbling and saves us from guilt. The laboratory side is unquestionably of great value, but not of prime value in all cases. Practical experience is often of greater benefit than voluminous laboratory reports. There is nothing new in this paper, but the mere writing down of one's experiences, so as to help his fellow workers, and call attention to frequent mistakes, entitles it to a place in the medical literature.
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DISCUSSION

Dr. Harvey G. Beck, Baltimore, Md.—I wish to refer to one point of Dr. Levin's paper where he speaks of low blood pressure in gall-bladder infection. Low blood pressure as well as subnormal temperature and slow pulse may occur in any low grade chronic infection. We not only see them in gall-bladder disease but in pyelitis, sinusitis, etc. Of course it is pretty generally accepted that the source of infection of the gall-bladder, the appendix, the kidneys, etc., arises frequently from focal infection, particularly about the sinuses and teeth. These are usually primary infections, and I think, in the case reported the source was well traced. The low blood pressure tends to the accumulation of toxins, which are partly the result of disturbed metabolic processes.

Dr. John A. Witherspoon, Nashville, Tenn.—I have had an experience that I think is worth relating. A case came in, a woman 61 years old, with abdominal pain which had been running on for four or five years. She had been x-rayed for gastric cancer and ulcer and all those things. The diagnosis was spinal trouble. We are prone to overlook the fact that spinal defects or curvature, anything which affects the nerve roots, will cause pain in the abdomen many times. I have seen two cases in the last month, one a lateral curvature and the other a Potts, both suffering from pain in the abdomen. One of them had pain on the left side, with a lateral curvature of perhaps three inches. As that curvature took

place it gradually impinged on those nerves and reflected this pain through the abdomen.

Many of these abdominal pains we get are really spinal in their origin and we are frequently misled by not examining the back. Too many examine the abdomen and not the back.

Dr. Sidney K. Simon, New Orleans, La.—There is one phase of one case reported that I think might be stressed, and that is the first case—abscess of the liver. Was the puncture made in the liver region in that case?

Dr. Levin—Three times in the right and finally in the left side, under the ensiform, and pus was obtained.

Dr. Simon—In our country abscess of the liver is apt to occur and I think if puncture was made more often a great many embarrassments in diagnosis would be saved. Even if you do not find anything the effort is worth while in all cases where mystery surrounds an enlargement of the liver, or in any enlargement or disturbance in the liver region.

Dr. Levin (closing)—The case of abscess of the liver with rupture into the stomach is of rather rare occurrence. An abscess of the liver very seldom ruptures into the stomach. On looking up the literature of 154 cases of abscess of the liver reporting rupture, there are only eight that ruptured into the stomach. I spoke to Drs. Matas and Danna, who had vast experience in the Charity Hospital, and they each had seen only two cases rupture into the stomach.

Another point about blood pressure: Dr. Beck said that in septic conditions elsewhere we also find low blood pressure. I do not mean to say because we have low blood pressure we are dealing with gall-bladder trouble. I go by the history and other symptoms. An interesting point is that with improvement of the gall-bladder condition, the blood pressure rises.

I wish to emphasize a point which I did not mention in my paper. We should not overlook the presence of malignancy of the stomach in the young individual. I remember about four months ago a case came up in my clinic with a history of stomach trouble for three months. He was 36 years of age, an inspector at the immigration station. He had no pain, and in the three months he had vomited only twice. The symptoms were those of ordinary indigestion. There was hardly any loss of weight. He was given medicine to relieve the symptom. He came to the clinic for relief of symptoms. On examination you could see a mass across the upper abdomen about the shape of a cucumber. You could move it up and down and it was movable on respiration. We made a gastric analysis to see what the acidity was, but he had almost normal acidity. Microscopically, there was nothing abnormal. The x-ray showed a marked deformity, with suspicion of malignancy. Dr. Matas operated, and he made a drawing of the stomach findings. The entire lesser curvature and the greater portion of the stomach was involved in the malignancy and there was only one channel at the bottom of the stomach along the greater curvature from the cardiac to the pyloric end: an inoperable case in an individual of 36, acidity almost normal, without any pain, but still an inoperable malignancy.

NON-SURGICAL DRAINAGE OF THE GALL-BLADDER*

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I am sure the gastro-enterologists are very much interested in the work that is now being done in this line. From the time Dr. Einhorn developed the duodenal tube down to the present, its use has become more and more important from a diagnostic and therapeutic standpoint. The work of Dr. Lyon, of Philadelphia, on non-surgical drainage of the gall-bladder has opened up a large field. Dr. Simon and I were both present at Atlantic City last May at the meeting of the American Gastro-Enterological Society when Dr. Lyon presented one of his papers and I had the pleasure of spending a few days with him in Philadelphia.

We are all confronted with a great many conditions involving the right upper quadrant. A certain proportion of these cases have gall-stones and a certain proportion have biliary stasis, over-distended gall-bladder, with secondary changes in the pancreas. Those cases having gall-stones we leave to surgery, but in the other conditions I have been pleased and surprised with the results obtained in my own work. I do not refer to the method of using the tube nor to its use in the institution of biliary drainage in acute conditions. For example, acute catarrh of the gall-bladder. In this class I have not yet had any experience. In my work, while I have used it about 200 times, it has been done only for therapeutic purposes, and I have not yet made any bacteriological studies. After introducing the tube in the ordinary manner, and being sure it has passed into the duodenum, seventy-five mils. of a 25 per cent solution of magnesium sulphate is allowed to flow in by gravity. In a few minutes by gravity or vacuum bottle the return flow begins, at first of a light yellow color mixed with some of the magnesium sulphate solution, then a deeper yellow, and in some cases light brown to deep

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