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DIAGNOSIS OF CANCER OF THE STOMACH.

BY

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CANCER of the stomach has an unenviable reputation among cancers of the gastro-intestinal tract. It seems to be increasing in frequency; its onset is insidious, with the result that diagnosis is made so late that operability is low (33.3 per cent.); there is no cure except by operation, which is severe and is attended by a high mortality (15 per cent.); and the best results show a five years' cure in only 25 per cent. of operated cases. So that of 100 cases of cancer of the stomach only seven have a prospect of a five years' cure. In the present state of our knowledge, operation holds out the only hope of cure, and it is therefore imperative, if our results are to improve, that we must reduce the proportion of inoperable cases, and this can be done only by earlier diagnosis.

We may well inquire into the reasons for delay in the diagnosis.

1. Indigestion is so common that it is treated by the patients themselves and no skilled advice is sought for some time.

2. In the early stages there are no palpable signs, the disease is not diagnosed, *but treatment is instituted.*

3. Investigation by the X rays and chemical examination of the stomach contents is expensive, and it may seem hardly fair to insist on this expenditure in the early stages of a case of indigestion.

4. Until recent years the early symptoms of cancer of the stomach were not sufficiently empha-

sised, and of the four symptoms which were considered to be diagnostic—viz., pain, wasting, vomiting, and the presence of a tumour—only one, pain, is an early symptom; the others are late indications.

Let us consider some of the conditions which are common to these cases. First with regard to sex. Men are much more often affected than women, in a proportion of 3 to 1, or more. The age is from 40-65, the ten years 51-60 being the most common.

With regard to the ætiology there has been a great deal of discussion as to whether or no cancer supervenes on a preceding chronic ulceration, and there seems no immediate prospect of a general agreement. On the whole, the surgeons are more convinced of it than the pathologists. Every surgeon has had cases giving a long history of "indigestion," but, of course, "indigestion" does not necessarily mean gastric ulceration. Many cases, too, diagnosed as simple ulcer and excised, prove microscopically to be malignant, and a few weeks ago I did a partial gastrectomy for a double ulceration, one of which proved to be innocent, the other malignant.

The fact that males are more affected than females, in much the same proportion as obtains for chronic ulceration, is also interesting. At one time I thought that cases of gastric cancer with a long history of "indigestion" were more common than cases with a short history, but I have now seen so many cases with a history rarely shorter than three months or longer than six months that my opinion is changing. I would lay it down as a rule that if a man over 50 years develops indigestion for the first time, medical treatment should not be instituted until the possibility of gastric cancer has been ruled out. One of the arguments in favour of excision in the treatment of chronic gastric ulcer is that it eliminates the risk of cancerous degeneration, and, though the sequence is still unproven, I feel sure

that the treatment of chronic ulcer by excision, preferably by partial gastrectomy, is sound.

Another common association with gastric cancer is oral sepsis, and indeed so common is it that it is difficult to exclude it as a predisposing cause. So much has been said about the ruthless sacrifice of teeth that it is very surprising to note how often indigestion cases are sent to the surgeon without any steps having been taken to treat coexisting disease of the teeth.

For convenience of description, ten symptoms or signs of cancer of the stomach may be referred to, and of these ten, five may be said to be early and five late symptoms. I will discuss them in the order of their occurrence.

EARLY SYMPTOMS.

1. The first symptom is *loss of appetite*. This covers all kinds of food, but particularly meat, and is very constant. In discussing this symptom with patients we are at once struck with the contrast between the patient with a cancer who does not want food and the patient with a chronic ulcer who is hungry but dare not take food for fear of subsequent pain.

2. The second symptom is *loss of energy*, best seen as a disinclination to take exercise. A man will ride when he used to walk, or be content with one round of golf instead of two, and often this symptom is noted more by his friends than by himself.

3. *Anæmia* is the next sign and it has been described as a real hæmolysis. It may be added to by the limitation of food and exercise noted above. As it is so early a sign it may be mistaken for anæmia of a different type, and I remember Dr. Samuel Gee, 35 years ago, saying that pernicious anæmia must never be diagnosed until cancer of the stomach has been excluded.

4. *Pain* is the next sign, and this occurs in nearly every case. At first it is a slight dull aching in the epigastrium, not constant, but not relieved, nor much increased, by taking food, but in the early stages relieved by belching wind. Later on the pain becomes constant, not affected by taking food and not relieved by belching or vomiting. Compare this with the pain of chronic ulcer. This is intermittent in 80 per cent. (that is to say, that four

chronic ulcer is generally more severe than in cancer.

Pain is the symptom which brings all indigestion patients to the doctor and its differentiation is most important.

5. The next sign is *belching of wind*. At first this may relieve, but soon gives no relief, and as time passes is associated with the regurgitation of a small amount of fluid which gives a burning sensation to the throat.

LATE SYMPTOMS.

6. *Vomiting* follows of mucus, food remnants, and foul-smelling dark (coffee grounds) fluid. Half the cases vomit and of those that vomit, most of them vomit every day. It is quite different from the periodic vomiting of pyloric obstruction, and resembles more the "irritant" vomiting seen occasionally in lesser curvature ulcers of innocent type. In cancer the vomiting does not relieve the pain.

7. *Loss of weight* has become obvious by this time and is progressive. It is seen earliest in three situations: (1) a loss of contour of the neck, (2) a sinking of the epigastrium with the patient supine, and (3) wasting of the thighs and buttocks.

8. A *tumour* may be felt in the epigastrium at this stage. It is mobile and not tender and may be found with difficulty owing to its position close under the liver. The right way to examine for this is to place the patient comfortably on a firm couch with head raised and thighs flexed, arms to the sides, to place the flat of the right hand lightly on the epigastrium, and direct the patient to take a series of deep breaths. After three or four breaths the abdominal muscles become relaxed, and the movements of the diaphragm bring the tumour down from the cover of the liver so that it can be felt moving up and down beneath the palm of the examining hand with each breath. Owing to the late stage at which patients are seen a tumour is present in 60 per cent. of cases, and, as the tumour of a malignant growth is much more readily found than the inflammatory mass of an innocent ulcer, owing to the fact that chronic gastric ulcers usually occur on the lesser curvature and are relatively fixed, the finding of a tumour is in itself presumptive, though not, of course, pathognomonic of malignancy. The fact that a tumour is present, though proof that the cancer is advanced, does not mean that the condition is inoperable or incurable.

9. *Tenderness*.—When the cancer has involved the serous coat, adhesions occur and tenderness to pressure follows. It is a late sign and is always associated with the presence of a tumour.

10. *Metastases* occur in three principal situations: (1) in the liver, (2) in the gland above the left clavicle under cover of the clavicular origin of the cleido mastoid, and (3) in the pelvic peritoneum.

	Chronic ulcer (per cent.).	Cancer (per cent.).
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Pain intermittent in ..	80	5
Increased by food ..	80	—
Relieved by food ..	20	3
Relieved by vomiting ..	100	nil

out of five patients are quite free from pain for varying periods), it is generally increased by taking food, but in 20 per cent. of cases it is relieved by food. In chronic ulcer the pain is nearly always relieved by belching and vomiting. The pain in

In this last region it forms a flat plaque which can be felt on rectal examination and may be mistaken for a sigmoid growth, especially if, as sometimes happens, there is widespread peritoneal invasion with incomplete obstruction.

There are three additional methods of investigation which are of great value, especially in the early stages. They are (1) X ray examination after a barium meal, (2) chemical examination of the stomach contents, and (3) examination of the *fæces* for occult blood. Of the three, the *X ray examination* is most helpful. In the early stages of cancer there is rapid emptying of the stomach, probably the result of interference with the pyloric sphincter, but in the later stages there is delay in emptying and certain characteristic filling defects. The most usual is a flattening of the shadow of the greater curvature of the pyloric antrum, and later on other evidences of gross deformity arise. Occasionally one may see a typical hour-glass contraction of the central portion, but the usual picture is one of greater or less deformity of the pyloric region.

Examination of the stomach contents is conducted, after the administration of a test-meal, either by withdrawing them one and a half hours after the test-meal was given, or by withdrawals of a portion of the contents every half hour by means of the Rehfuß tube. The "resting juice"—that is, the contents of the stomach before the test-meal was given—is also examined and this is of great value. The amount of the "resting juice" and its character, and the condition of the test-meal is estimated macroscopically, microscopically, and chemically. The presence of blood and pus is suggestive and tissue cells and micro-organisms may be detected.

The most important investigation is the test for the presence of free HCl. In at least 50 per cent. of cases of cancer free HCl is absent from the early stages, and in late stages it is nearly always absent. It must be remembered, however, the free HCl is diminished or absent in other diseases, such as pernicious anæmia and cirrhosis of the liver, and it is not always found in some cases of simple ulcer.

Occult blood in the fæces is easily tested for by the benzidine method. The case must be prepared by withdrawing meat from the dietary for three days and bismuth should not be given as its presence in the stools may give a positive result. In view of the many possibilities of error due to chance hæmorrhage in other parts of the gastro-intestinal tract, especially from hæmorrhoids, the test is not an exact one, and has perhaps more of a negative than a positive value—that is, that the absence of occult blood after repeated examination is of more value in excluding the possibility of gastric cancer than its presence is in favour of cancer. Occult blood is found occasionally in simple ulcer of the stomach, but it is much more frequent and more constant in cancer, where it has been estimated to occur in 75 per cent. of cases.

SOME POINTS IN DIAGNOSIS AND TREATMENT OF AURICULAR FLUTTER AND FIBRILLATION.

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THE subject chosen for review is perhaps a little stale, but there is some excuse for a reconsideration of the matter; for, although the diagnosis of these conditions is undoubtedly now made correctly in most cases, yet, the treatment seems still to present a good deal of difficulty in carrying it out to a satisfactory conclusion. This management should be in the hands of the practitioner who has charge of the cases, in most patients, and it should not be necessary for the patient to be constantly watched by the cardiologist.

In no cardiac condition can a more satisfactory result be obtained, and in most cases to attain this all that is necessary is a clear view of the condition, close observation of the patient, and common sense.

We are constantly seeing patients who, starting with a failing heart from fibrillation, then have cardiac failure from excessive dosage with digitalis, and finally drift back again to uncontrolled fibrillation, on the withdrawal of the digitalis.

IRREGULARITIES REVIEWED.

To review our conception of irregularities. The cardiac condition when the patient first consults his doctor is usually one of decompensation; in this connexion we must remember that whilst in valvular disease we are helping the mechanical defect as well as the cardiac load by resting the patient, in the case of pure defects of rhythm rest has little effect on the defect; we rest the heart only to improve its condition and then endeavour to rectify the defect in rhythm. Irregularities arise by the supersession of the pace-maker normally present in the sinus node, and by ectopic stimuli arising in the muscle or neuro-myogenic tissue. The physiological type of irregularity due to nervous influences arising in the sinus can be ignored as far as ectopic rhythms are concerned.

An ectopic beat arising below the sinus suppresses the effect of the sinus for one beat; if the ectopic beats are continuous and multiple they suppress the sinus for as long as they occur, and directly they cease the sinus resumes control again.

Single ectopic contractions or premature beats are most often met with arising in the ventricle, but series of ectopic beats lasting with regularity for minutes or hours (the condition known as paroxysmal tachycardia) are most commonly of the auricular type.