TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some diseases of the digestive system met with in general practice.

CARCINOMA OF THE STOMACH

BY

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In England carcinoma of the stomach accounts for about one-fifth of all deaths due to cancer over the age of 40; it is most frequent over this age, and the ratio of men to women affected varies between 3 to 1 and 2 to 1. The majority of growths of the stomach occur at the pylorus, though the cardia is not an uncommon site; the leather-bottle stomach is rare.

Although statistics and opinions differ on the point, there is no doubt that at least some proportion of cases of carcinoma of the stomach arise on the basis of either chronic gastric ulcer or gastritis. In my own experience the proportion is high, and many authorities, notably Hurst, are of the opinion that cancer never develops in a previously healthy stomach. Certainly a number of cases—perhaps one-half—occur in patients who have had for many years symptoms of recurrent dyspepsia. In view of this association of cancer with ulcer and gastritis, an important line of treatment lies, first, in the prevention of those factors which so far as we know give rise to these conditions; and, secondly, in the early and thorough treatment of them when they have developed.

Symptoms of dyspepsia should demand not only full investigation, but careful inquiry into habits of eating, hurried meals, insufficient mastication, over-smoking, unsuitable food and drink (including alcohol), and in young patients correction of any such errors that may be discovered. Oral and nasal sepsis and chronic constipation should also receive attention. Such measures taken before the age of 30 may do much to prevent the occurrence of at least a proportion of cases of carcinoma of the stomach.

Early Diagnosis

The third line of treatment depends upon early diagnosis; unfortunately almost half of the patients do not consult their doctor until the growth is already inoperable. The possibility of carcinoma of the stomach should be considered in any doubtful case of indigestion, particularly in patients over 40 years of age. The most frequent initial complaint is of fairly constant discomfort in the epigastrium, made worse by eating but not entirely disappearing between meals; with this there is disinclination for food, flatulence, and nausea: severe pain, vomiting, and loss of weight are early symptoms in not more than 25 per cent. of cases.

A history of many years' duration of symptoms is no proof that malignant disease is not present, whilst any marked alteration in the symptoms should make the suspicion of growth more definite. A change from intermittency to constancy of the pain or of discomfort, the onset of partial or complete anorexia, an increasing lassitude and exhaustion, the appearance of symptoms of anaemia, such as dyspnoea or slight oedema, all suggest the possible onset of malignant disease. The presence of definite anaemia and cardiac weakness in an elderly patient must not distract attention from the digestive system; recurrent phlebitis is not a rare early accompaniment of cancer of the stomach, and may even be marked enough to justify the name of thrombophlebitis migrans.

Actual wasting is usually a later symptom, but a slightly cachectic facies may give early indication of serious disease. A low fever usually indicates the presence of either a big growth or metastases in the liver. Severe vomiting may be due to pyloric obstruction, in which case the vomit is usually large in amount—often 2 to 3 pints; it may be foul-smelling and dark from the presence of blood, and may contain particles of food eaten many hours previously. Such vomiting tends to occur at intervals of from twelve to forty-eight hours, and usually affords considerable relief to the patient.

In the early diagnosis of carcinoma of the stomach such symptoms and the general appearance of the patient should carry more weight than the physical signs. The majority of cases in which a tumour can be felt on palpation of the abdomen are already inoperable, although size alone of the growth is no certain indication as to operability or the presence of metastases. A large growth of the body of the stomach may remain localized for a long time, whilst a small pyloric growth, which at no time becomes palpable, may first show itself by the presence of secondary deposits in the liver or lungs. Palpation of the abdomen in the upright position may sometimes enable one to feel under the costal margin a small growth which cannot easily be detected by examination in the horizontal position.

Radiological Investigation

If any suspicion of carcinoma of the stomach exists, radiographs of the stomach after a barium meal should be taken without delay. The great majority of growths can be detected by skilled radiology even in an early stage. Bad x-ray films, on the other hand, may fail to demonstrate quite an advanced growth, and if clinical suspicion is strong no hesitation should be felt in advising further x-ray examination at more expert hands. In a number of cases a suspicious area may be seen on screen and film examination, although a definite opinion as to the presence of growth cannot be given. In such patients the stools should be tested on three or four occasions for occult blood, and if possible the x-ray examination should be repeated in two or three weeks' time.

If occult blood is present in the stools and the gastric radiographs still show any suspicious abnormality of contour, impaired peristalsis, tenderness on screen palpation, or doubtful filling defect, exploratory laparotomy should be urgently recommended. Where a large gastric ulcer crater is demonstrated radiologically, evidence of possible malignant change, in the shape of fixation or irregularity of outline, should be regarded as a definite indication for treatment by partial gastrectomy rather than by medical measures.

Differential Diagnosis

A test meal should be carried out in any case in which the x-ray diagnosis is indefinite, particularly in those with a long history. Complete absence of free hydrochloric acid is highly characteristic—though not pathognomonic—of gastric carcinoma. The presence of free hydrochloric acid either in the vomit or in the test meal must, however, never be allowed to exclude a diagnosis of carcinoma. Where the distinction from a purely nervous condition is in doubt, the red cell sedimentation

test is simple to carry out, and, if positive, points with a great degree of certainty to an organic cause for the symptoms.

Carcinoma of the stomach has to be differentiated from other causes of indigestion. Of these peptic ulcer has already been mentioned; gall-bladder disease is the most frequent cause of indigestion beginning after the age of 45, but occurs more often in women than in men; attacks of right-sided pain, excessive flatulence, and a more definite relation of pain to meals, together with some tenderness over the gall-bladder on palpation, suggest this diagnosis, but a cholecystogram is often essential to establish it. A purely nervous indigestion is not uncommonly associated with considerable loss of weight, anorexia, nausea, and exhaustion; I have observed this especially in men on retirement from active work. Only the fullest investigation to exclude organic disease justifies this diagnosis, especially when it is remembered how rapidly nervous symptoms may become superimposed upon organic disease.

Genito-urinary dyspepsia, secondary to prostatic enlargement, may simulate closely gastric carcinoma, but can usually be diagnosed by inquiry as to urinary symptoms and by rectal examination. Carcinoma of the colon can be distinguished in most cases by a careful history as to bowel irregularity, lower abdominal discomfort, colic, and blood and mucus in the stools; carcinoma of the oesophagus by dysphagia and the immediate regurgitation of food.

Chronic toxic gastritis, which may arise from severe oral sepsis, alcoholism, or after acute illnesses such as influenza, as a rule can be diagnosed with certainty only after exclusion of carcinoma by careful radiography. A satisfactory response to medical treatment is not a reliable guide in these cases, since a similar improvement may take place for a time in cases of malignant disease. Pernicious anaemia should be remembered as sometimes giving difficulty in diagnosis, and a full blood count should be carried out; indigestion is not so marked in these patients, and loss of weight and anorexia are often absent. When an abdominal mass is palpable, or ascites has appeared, the diagnosis has to be made from other forms of malignant disease, ovarian cyst, cirrhosis of the liver, or tuberculous peritonitis.

Operative Treatment

The only hope of effective treatment lies in early and radical operation, since at present deep x-ray or radium treatment offers very little chance of cure. Unfortunately, even in early cases, partial gastrectomy with removal of neighbouring glands does not give a proportion of five-year cures of more than 10 to 15 per cent. The average immediate operative mortality lies between 5 and 30 per cent. Palliative gastro-enterostomy has nearly as high an operative mortality, and the average duration of life after operation is not more than six months.

Operation may be advised either in the hope of radical cure or with the object of relieving pyloric obstruction. In general, surgery is contraindicated if hard glands can be felt in the neck or axilla, if the liver is enlarged from the presence of metastases, or if there is ascites or jaundice. Severe anaemia due to chronic bleeding from the growth, heart failure, or severe wasting makes the operation more dangerous, but does not contraindicate it.

Vomiting from pyloric obstruction is an indication for operation (palliative gastro-enterostomy, or, if possible, resection) unless the patient's general condition is too bad. Much, however, can be done to improve the patient's condition before surgery is undertaken, and if this can be achieved he should be given the benefit of abdominal exploration, even in a case of doubtful opera-

bility. If there is pyloric obstruction, gastric lavage should be carried out for a week or more before operation. If possible, the large-bored rubber tube should be used, but if the swallowing of this is badly borne the small Ryle's tube may be used instead, and the gastric contents drawn off with a syringe. After withdrawal of the stomach contents five or six ounces of a 5 per cent. solution of sodium bicarbonate should be injected into the stomach and withdrawn, after which a further five ounces may be injected and allowed to remain; this procedure should be carried out once or, in severe cases, twice a day. If the patient is dehydrated, as shown by a dry, inelastic skin, parched tongue, and low blood pressure, rectal salines, containing two ounces of glucose to the pint, should be given six-hourly in volume of 15 to 20 ounces. Before operation a blood transfusion should be given if the haemoglobin is below 60 per cent. The patient's blood should in any case be grouped, so that an immediate transfusion may be given later if necessary, and if possible suitable donors can be chosen and warned to be in readiness if required.

Symptomatic Treatment

The main symptoms requiring treatment are pain and loss of strength. For both of these a diet similar to that given in gastric ulcer may for a time bring improvement. Regular two-hourly feeds of 5 ounces of egg-and-milk, malted milk foods, arrowroot, vegetable cream soup, with the addition of glucose, custard, jelly, junket, a few rusks, sponge fingers, and plain biscuits, may be tried.

If there is pyloric obstruction fluids must be given per rectum, and the diet may more satisfactorily be drier; it should include pounded fish, chicken, toast, and lightly boiled eggs, but in these cases little can be done by dietetic measures unless gastro-enterostomy is carried out. In cases in which all attempts at relieving the symptoms and distaste for food by diet are unsuccessful, the patient should be allowed a free choice. For those who can afford it champagne in small amounts is sometimes well taken.

For the gastric discomfort a dyspeptic mixture such as the following, containing a mild antiseptic, may be prescribed four times a day:

R. Sod. bicarb.	...	...	...	gr. xvj
Ammon. carb.	...	...	...	gr. j
Glycothymolin.	...	...	...	m xx
Ol. menth. pip.	...	...	...	m j
Inf. gent. co.	...	...	...	ad 3 ss

If there is restlessness and insomnia 10 grains of sodium bromide may be added to this mixture, and if pain is pronounced nepenthe, 10 minims, or tinct. opii, 10 to 15 minims, may also be included. Acid-pepsin mixtures are often badly tolerated, in spite of the frequent absence of hydrochloric acid in the stomach, and alkaline preparations are usually more successful in relieving distension and discomfort. The simple alkaline powders such as the following may be tried:

R. Bismuth. carb.	...	...	...	1 part
Mag. carb.	...	...	...	3 parts
Calcii carb.	...	...	...	3 "
Sod. bicarb.	...	...	...	3 "
Ft. pulv. One to two drachms three-hourly in milk or water.				

When there is marked anaemia, ferri et ammon. cit. in 30-grain doses may be given in milk, and a course of injections of one of the liver extracts intramuscularly will, in a few cases, improve the blood picture; these may be ordered in the form of campolon (Bayer) 2 c.cm., and given every second day. In some cases a dose of luminal (1/2 grain) may relieve the nausea, or a cachet of chloretone (5 grains) may be tried. The simple tablets

of aspirin (5 grains), phenacetin (5 grains), and caffeine (2 grains) will often relieve pain sufficiently to avoid the use of morphine or heroin for a time.

Carbromal (adalin), 10 to 20 grains, at night is worth a trial to procure sleep. If these simpler measures fail, there should be no delay in prescribing stronger drugs. Morphine, 1/4 grain, should at first be given by mouth as a tablet, or in a suppository, rather than hypodermically, but if this increases sickness one of the proprietary substitutes, such as dilaudid (tablets 1/24 grain), may be tried orally. The combination of omnopon, 1/4 grain, and scopolamine, 1/200 grain, is often more effective, given hypodermically, than either morphine or heroin alone. The dosage has usually to be increased gradually, but a change from morphine to heroin may often enable smaller doses of the latter to be continued with success.

Local applications in the form of poultices or warm pads to the epigastrium are often successful in giving some temporary relief. If there is severe constipation it is best relieved by simple enemata. Severe gastric

haemorrhage is not common in cases of carcinoma of the stomach, but when it occurs should be treated along the customary lines for haematemesis.

Conclusion

In conclusion, the mental outlook of the patient and his relatives must be carefully studied from the outset. The true nature of his illness should be kept from the patient, and it is justifiable to give him the diagnosis of gastric ulcer. The relatives should, however, be told at once of any suspicion of growth, and informed exactly as soon as the diagnosis is sure. The prospects of surgery should be fully explained to them. The decision to tell the patient of his condition should never be made without consultation with his wife or relatives. When once the outlook is hopeless it is the doctor's duty to minimize expensive measures which he may know are doomed to cause disappointment, but no reasonable step which may increase hope or optimism should be discouraged.

ASPECTS OF THYROID DISEASE

The *Proceedings of the Second International Conference on Goitre*,¹ edited on behalf of the Swiss Goitre Commission by Dr. Otto Stiner, have recently appeared in a volume of 750 pages. It is a notable addition to the literature of diseases of the thyroid gland; and the Swiss Goitre Commission is to be congratulated on this second evidence of its success in collecting from all parts of the world the experience of those who have devoted themselves to the study of this most complex subject. For this service the profession is under deep obligation to the members of the Commission, in particular to its president (Dr. H. Carrière) and secretary (Dr. Otto Stiner). Those interested in "thyroid-ology" will be grateful to Professors de Quervain and Wegelin for their excellent résumé (pages xlii-li) of the work of the conference.

The subjects dealt with were: (1) the hyperthyreoses, (2) recent researches in the aetiology of endemic goitre, and (3) malignant goitre. It is not possible here to do more than refer briefly to each of these.

The Hyperthyreoses

The principal rapporteurs on this subject were Professor R. de Josselin de Jong (Utrecht) and Professor J. Holst (Oslo). The former dealt with the pathological anatomy of the thyroid in Graves's disease; the latter with the pathological anatomy of organs other than the thyroid in Graves's disease. These dissertations, both in keeping with the high reputation of their distinguished authors, were followed by others from such authorities as Eppinger (Cologne), Bérard and Peycelon (Lyons), Roussy (Paris), Dautrebande (Liège), Marañón (Madrid), Fahr (Hamburg), Klose (Dantzig), Oswald (Zurich), and Cattell (Boston), to mention only those who contributed papers. British contributors were conspicuous by their absence. From a perusal of the 353 pages devoted to this subject the melancholy facts emerge that the united wisdom of the world has provided no satisfactory explanation of the cause or causes of Graves's disease, nor any treatment of it more satisfactory—satisfactory because of the rapidity of its results—than subtotal removal of the thyroid gland. Here, indeed, is Medicine discomfited.

According to Eppinger the essential in all the hyperthyreoses is the continued discharge of thyroxine from

the gland and its augmentation in the blood. The symptoms can be considered as manifestations of sympathetic and parasympathetic excitation. But the central nervous system itself plays an important part in the pathogenesis of the hyperthyreoses, by reason of the intimate relations which exist between the cerebral cortex, the vegetative nerves, the thyroid and other endocrine glands: relations which render probable a psychogenic form of the malady. But there exist also forms that are due to other endocrine glands or are provoked by the direct action of certain factors (iodine, infections, enterotoxins) on the thyroid. None of these forms of the disease can arise without an exaggerated sensitiveness of the vegetative nervous system to the action of the thyroid secretion (Oswald, Klose, Marañón). At this point the questions might well be asked: What causes this exaggerated sensitiveness of the vegetative nervous system? Is it such as to render the individual hypersensitive to amounts of the secretion which in the person of normal sensibility are without effect? or must we continue to assume—for it is an assumption—that there is an excessive output of thyroxine from the gland? Proliferation of the thyroid epithelium, as de Josselin de Jong rightly reminds us, is in itself no proof of hyperfunction, but only of increased growth. Free thyroxine has up to the present time never been demonstrated in the blood. It is certain that it is not the quantity of iodine contained in the blood that conditions the degree of hyperthyreosis; for there is no parallelism between the iodine content of the blood and the severity of the symptoms (Sturm, Holst, Höjer). It is true that subtotal thyroidectomy causes the disappearance of symptoms; but is this in itself proof that an excessive secretion is the cause of them? May it not be that the time has come to look more closely into the causes of the "exaggerated sensitiveness of the vegetative nervous system" to the action of thyroid secretion, and to forget for the moment, or until we have definite proof of its existence, "the augmentation of thyroxine in the blood"?

And are there forms of hyperthyreoses due to disturbances of other endocrine glands? Professor Holst, in his comprehensive survey of the subject, has failed to find any changes in these glands of sufficient constancy to justify our fitting the cap to other endocrine heads. Pituitary hypertrophy, though sometimes present, is not sufficiently regular in its occurrence to justify the incrimination of the thyrotropic hormone of its anterior lobe, even when the thyroid is previously sensitized by bacterial toxins or by pre-existing goitre—a combination

¹ Berne: Hans Huber. 1935. (Pp. 698. 25 fr.; RM. 20.)