THE EARLY DIAGNOSIS OF CANCER OF THE OESOPHAGUS AND STOMACH*

BY

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We know the main facts about cancer. We know it is the chief cause of death in men and women in the years after 40—the time when they have established a place in life, a home, a reputation, when they are most useful to their profession and their country and most necessary to their families. We know that at first it is not a tumour but an insensible transformation of the cells in some part of the body to a structure that is a caricature of the normal rather than something new or different; that this new tissue has no nerve supply, and that it produces no inflammatory reaction in the normal parts surrounding it—in other words, that it is entirely painless, and in most cases entirely symptomless. We know that, for purposes of recording, cancers can be sorted into three stages, based on their gross naked-eye pathology: Stage I, in which there is a local growth only; Stage II, in which as well as the local growth there are early metastases in the nearest lymphatic glands or in tissues immediately adjacent; and Stage III, in which the primary growth or the metastases are fixed, or more distant organs are involved. We know also that in those parts of the body which can be effectively irradiated, or where a radical operation that satisfies pathological criteria can be performed—the breast, the colon, the rectum, and most parts of the skin—the five-year cures in Stage I are 80 to 90%, in Stage II about 50%, and in Stage III not more than 10%.

Radiation will improve, but it is doubtful whether that improvement will be dramatic. Radical surgery can hardly get more radical, for the limitations now set are not the result of timidity or lack of enterprise but are rather due to Charles Mayo's stipulation that among the results of successful surgery should be a live patient. If, therefore, we are to get more cures it can only be by finding more patients in Stage I, the stage of silence.

Two of the most malignant of all growths are those of the oesophagus and the stomach. Cure of oesophageal cancer is almost unknown. Cure of gastric cancer is sometimes seen, but in not more than 5% of those cases that come to a surgical clinic; yet it is the commonest of all malignant growths, and the chief cause of cancer deaths in all civilized countries in which records are kept. There are no signs or symptoms by which we can diagnose these diseases in their early stages, but are there any which should raise our suspicions and allow us to start those investigations that will give the answer in time? It is those early signs that are the hardest to discover, and many of you may have observed some warning sign that the rest of us have not noticed. If you have I hope that you will share it.

Warning Signs

Those who were in the first World War will remember the "stand to" in the front trenches an hour before dawn, the hour when mists and half-shadows conceal familiar objects, the hour when the enemy may creep unseen, when a suspicious alertness is the only way to safety. We should all "stand to" over our patients who have passed the forty mark, suspicious of the enemy who may even then have established a footing unknown. We should beware of the man who starts to look ill, to get a little paler, to lose weight, to turn down the second round of golf or the last rubber at bridge, to miss his second helpings, and to become "choosy" about his diet. The mind or body of a healthy man does not tire suddenly and perceptibly be he forty or four-score, and the change from the "Wimbledon Tiger" to the steady back-line six-set tournament player of forty years later is imperceptible. Habits of meals and bowels do not change without reason; but it is the neurotics who look at their faces and tongues daily in the mirror and weigh themselves weekly, and with normal men we have to rely on our own observations or the reports of their wives or friends. We may first suspect loss of weight in our friends by the loose collar, the baggy waistcoat, loss of strength by the tendency to take a taxi instead of a walk, the lift instead of the stairs. These things we can check by a few questions. Have they noticed any difference in the fit of their clothes? Can they do all the things they did six months ago? Is there any alteration in their appetite, the amount they can eat at a time, their bowel habit? Have they started to suffer from wind lately? Some men are windbags all their lives, but a previously unexceptionable member of society who starts suddenly to belch or rumble probably has cancer. Have they for the first time taken to powders or medicine?

To start with we keep our suspicions to ourselves, for we do not wish to earn a name for being alarmists or to involve our patients in needless expensive investigations, but we must keep a constant watch on the deviation we have noticed, and we should start a weight chart. There are many groups of disease, and each has its general characteristics. The colics from stone come like stabs across the sky of otherwise excellent health. The infections are incidents of varying duration with a rise and fall. Cancer is progressive; the paleness increases, the tiredness gets worse, the weight continues to fall. And there are certain tests we can carry out without revealing our suspicions. If we suspect carcinoma of the oesophagus we can order a bulky cachet of "medinal" and aspirin and stand by while they swallow it; if carcinoma of the stomach we can ask them to share a bulky meal. And we can put

* Substance of lecture delivered at Mount Vernon in 1946.

them on a meat-free diet and have a stool examined for blood; a negative result makes a cancer anywhere in the alimentary tract very unlikely. But if symptoms continue and progress, if we see that slight but steady deterioration that whispers "cancer" to the trained eye, we must insist upon a complete investigation. We may be wrong, but if we always wait till we are right we shall always be just too late. A live mistake is better than a dead certainty.

Cancer of the Oesophagus

Cancer of the oesophagus is predominantly a disease of men, and of old men—that is, 60 and over. It is hardly ever diagnosed till it is well advanced, for it is entirely silent. The mouth and the stomach form their opinions about food and reject what they do not like. The oesophagus is insensible and uncomplaining. A carcinoma usually produces no recognizable obstruction till it has completely encircled the lumen; while even one centimetre of normal wall remains swallowing usually appears to be normal. Once the growth completely encircles the gullet dysphagia appears and progresses rapidly, first for solids, then for soft foods, then for liquids. Late signs, palsy of the left recurrent laryngeal nerve, involvement of the trachea or bronchus, glands in the neck, Horner's syndrome, follow in turn.

There are no early symptoms, apart from the vague ones I have outlined, and questions to all my friends have produced only three observations with any bearing on the subject. First, that there is occasionally some oesophagitis above a non-obstructive growth, giving a burning feeling deep in the throat "as if they have swallowed some very hot tea." Secondly, that a partial obstruction may suddenly be complete to some usually large bolus, so that patients come with a story of a "bone stuck in the throat." Both stories call for x-ray examination and oesophagoscopy. Thirdly, that the early dysphagia of a slightly stenosed growth is often reported as "indigestion," which leads to investigation by a barium meal and a report of a normal stomach that allays suspicion until too late. It should be the rule at every barium meal that the first swallows are watched in their passage down the oesophagus. One swallow may not make a summer, but it may diagnose carcinoma of oesophagus or cardia while there is hope.

Cancer of the Stomach

Cancer of the stomach is also a disease of men, but it occurs much earlier, many coming soon after 40, and not a few in the thirties. The classical symptoms are epigastric pain unrelieved by alkalis, vomiting, anorexia, anaemia, loss of weight. About half the cases we see give this picture, but they are already far advanced. Very many are entirely silent till their terminal stages.

A celebrated American gastric radiologist swallowed a cup of barium to try out a newly installed apparatus; the film, to the horror of the radiographer who developed it, showed a large gastric carcinoma. Within the last five years two very famous surgeons have suddenly discovered that they had a carcinoma of the stomach by feeling the mass bump against the operating table. So silent is the lesion in the stomach that growths often reveal themselves by syndromes that do not seem to be gastric. Lesions near the cardiac orifice cause symptoms closely resembling those of oesophageal obstruction. A barium swallow may appear to pass normally down the oesophagus, and if it is not followed by a barium meal a growth in the stomach may be missed. Growths near the fundus are very difficult to demonstrate radiologically, and unless the fundus is examined with the patient in the Trendelenburg position, so that the barium fills the whole cardiac region, small

irregularities cannot be seen, and even large ones may pass unnoticed. In many cases the barium is held up at the lower end of the oesophagus, but as the constriction is smooth and funnel-shaped a diagnosis of cardiospasm is made. This is one of the commonest mistakes in gastro-intestinal radiology, and one of the most tragic, for while the patient is being treated with bougies, or, as happens not infrequently, running the whole bewildering gamut of psychological investigation, the growth below the diaphragm is passing insidiously from the operable to the inoperable stage. Cardiospasm is usually a disease of younger people, and by the time it has progressed enough to bring the patient up for examination has a long history of periodic bouts of dysphagia and of remissions. In cardiospasm the oesophagus is seen in the radiograph to be considerably dilated, at least to the size of a normal caecum; above a growth the oesophagus may be filled to capacity, but it is rarely dilated in the true sense, and it does not exceed a candle in diameter. A diagnosis of cardiospasm should never be made in an adult with a short history till the possibility of a high gastric cancer has been excluded.

In other cases profound anaemia is the only recognizable symptom, and the diagnosis of pernicious anaemia is made. In yet others a small and silent growth sends out showers of malignant cells into the peritoneal cavity that seed themselves in the pelvis, giving rise to a pelvic shelf and rectal obstruction or, in the female, to bilateral implantation carcinoma of the ovary.

Early diagnosis, once more, is the reward of a suspicious mind. Does a man who has eaten like a horse till the age of 40 suddenly get indigestion, though his job, his habits, and his wife remain the same? No! Does gastric ulcer start after 40? Never—well, hardly ever! Does the tired business man come back tired after a week at Westward Ho? Not if his tiredness is no more than business worry. These people want investigation before, not after, they start a course of diet and medication on the advice of the chemist, the man in the train, or the writer of the health column in the evening paper. The seller of alkalis is the undertaker's best friend. Investigation means observing these doubtful cases closely and anxiously, inquiring about appetite and comfort at meals; whether they have a sense of fullness when the meal is half done or belch foul-smelling gas—two symptoms highly suggestive of carcinoma; it means weighing them weekly, examining their blood and their stools, testing their vomit for free hydrochloric acid and blood; if suspicion continues it means a barium meal, and if the barium meal is inconclusive it means gastroscopy. The gastroscopist has to look at a great many stomachs before he knows his job, but when he does he misses very few carcinomas of the stomach.

Relation of Gastric Ulcer to Gastric Cancer

One of the most important services that gastroscopy can perform is to decide whether a particular ulcer is innocent or malignant. There has been much controversy about the relationship between gastric ulcer and gastric cancer, but it is undoubtedly one of the most important aspects of the question that concerns us to-day, the early diagnosis of malignant disease of the stomach. We must consider two things: the gastric ulcer that undergoes malignant degeneration, and the gastric cancer that resembles gastric ulcer.

Authorities vary greatly in their estimate of the number of ulcers that become malignant. On the pathological side, from the investigation of necropsy and operation specimens, estimates vary between the 4 or 5% of most British pathologists and the 50% of McCartney of the Mayo

Clinic. Surgeons for the most part accept the lower figure, but Maingot in a recent article has stated that in about 10% of the cases of cancer of the stomach that come to him the change has been implanted on a previous gastric ulcer.

I personally believe that the number is very low indeed—so low that I should never use the argument of impending malignancy to bully a patient with an ulcer that had all the clinical indications of innocence into an operation she did not want to have. No surgeon in a lifetime has enough personal cases to allow him to lay down the law, but I must place on record that in twenty years of gastric surgery I have never seen a gastric ulcer become malignant. I feel that Maingot's experience is a piece of unparalleled bad luck in the practice of an otherwise very lucky man.

Cancer mimicking ulcer, on the other hand, is seen by every surgeon several times a year. It is necessary to remind ourselves that cancer of the stomach, while it is usually a very rapid disease, may be as slow as a scirrhus tumour of the breast, going on for ten years with little change; that patients with slowly progressing cancers may have a good appetite and free hydrochloric acid, and that they may lose their symptoms for a time and put on weight on a gastric diet. These slow cancers are digested in their central necrotic parts by the gastric juices, and, whether at operation or necropsy, may have very much the appearance of an indurated peptic ulcer. But in these cases, if we go into the history carefully, we find that the gastric symptoms have started suspiciously late in life, that though they may have gone for some years they have been steadily and slowly progressive, and that the remissions have not been periods of complete health but of lessened discomfort. The true ulcer usually starts in the twenties, and, in its long history before its final cure by medicine or surgery, has many remissions of months' or years' duration. I know that prolonged irritations and the presence of scar tissue may give rise to a cancer, but in a lifetime I have seen little evidence that they do so except in squamous epithelium.

On the other hand we need not be too philosophic. A large chronic gastric ulcer causes constant misery even if it does not cause cancer, and gastrectomy is one of the most satisfactory and, in practised hands, one of the safest operations in surgery. An ulcer in the bucket has never been known to become malignant.

We must suspect malignancy or a premalignant character in all gastric ulcers first appearing after the age of 40; in all those in the prepyloric inch, and in other parts of the stomach that are not on or adjacent to the lesser curvature; in those exceeding an inch in diameter; in those that do not heal after a month's strict medical treatment in bed and in which occult blood is still found in the stools after such treatment. All these should be submitted to surgery without further delay.

Conclusion

I would conclude by repeating that the early diagnosis of cancer in any internal organ depends, in the main, on clinical judgment, on the early confirmation of what can, in most cases, be no more than a suspicion. We can all remember instances of a diagnosis of malignancy made on clinical grounds, of repeated examinations by experts giving repeated denials, of confirmation coming too late for curative treatment. When cancer is in question we should accept the negative warning of a penny weighing-machine in preference to the positive reassurance of the ten-guinea Harley Street expert. And if our suspicions continue, if the weight continues to fall, we must insist on an exploration. There is more rejoicing in heaven over the one laparotomy that fails to find cancer than over the ninety-and-nine (positive ones) that find it too late.

PUBLIC HEALTH—BERLIN, 1946

BY

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[ABRIDGED]

From the entry into Berlin in July, 1945, to the end of the winter of 1945–6 the concern of the Military Government from the health and welfare point of view was almost entirely that of first-aid to a demoralized, apathetic, depressed, and needy population. A factual account of the conditions to the end of 1945 has been given by P. G. Horsburgh and H. A. Raeburn.¹ History has shown that in the train of the devastation caused by wars come epidemics which have usually claimed more victims than the wars themselves. A winter plan of epidemic prevention was therefore of first importance. The situation was complicated by vast movements of population, refugees in tens of thousands moving in all directions, but chiefly from east to west. Small groups of these, infected with typhus, dysentery, and typhoid, were a potential menace to all concerned. Barriers in the form of camps for refugees had to be established. Medical teams, hospital arrangements, disinfestation, feeding, and transport all had to be organized, and organized quickly.

Public Health Control

The Allied Control Authority takes the place of the Government in Germany, and the Public Health Control Officer of the Military Government therefore acts in the capacity of an official of the Ministry of Health, except that he has overriding powers to ensure that certain aspects of local government are carried out as ordered. Berlin is under a quadripartite government, and each of the Allies has a Public Health Branch of Military Government controlling all the medical and health services of the 20 "Bezirks" (corresponding to metropolitan boroughs in London) into which Berlin is divided. The Public Health Branch of the British Military Government consists of four officers assisted by clerks, and all the medical and auxiliary services in the four Bezirks which it includes come under its control. Direction of the doctor is within its province, and on the whole the doctors, instead of resenting this, rather look to the Branch to help them. In the British sector there is one doctor to 850 population, but in an Allied sector only one to 2,500; so that, allowing for the fact that more of the hospitals in proportion to the population are in the British sector, some general practitioners must be ordered to work in other Bezirks. There will be no compulsion upon the doctor to move his home to the other Bezirk, but only his field of employment, and the direction will be limited to "squatters" and the newly qualified. The effective measure for securing direction is through control of insurance contracts, 90% of the population being insured.

The Berlin Hospitals

The hospitals of Berlin had been reduced by May, 1945, to some 30,000 beds. By August they were up again to 38,000. The winter target was 50,000, and by the end of December 46,000 had been reached. For the British sector the target was 10,000, and the figure at the moment of writing is over 11,000. There are now practically twice as many hospital beds as in peacetime, but there are nearly three times as many sick—this with a population depleted

¹ *British Medical Journal*, 1946, 1, 423.