FLATULENCE AND EPIGASTRIC DISCOMFORT*

BY

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Our terms of reference are broad and not a little vague. I shall hold it a part of my function as opener to attempt to define them more precisely, thereby setting certain limits to our debate without, I trust, inhibiting a free interchange of experience. We might well ask ourselves for definitions both of "discomfort" and of the "epigastrium." Should the first include or exclude pain? By the latter must we understand the stricter anatomical confines of the epigastric angle? And does "flatulence" include bowel as well as stomach "wind"?

I suggest that we direct our attention to discomfort short of, or other than, pain; that we be rather generous in our interpretation of "epigastrium," allowing its expanse to include the lower sternal area and to encroach upon the right and left hypochondria, while not permitting it to extend below the navel; and, finally that we should only consider gastric flatulence.

I shall next endeavour to describe the general clinical approach to a case in which these symptoms, severally or in combination, are the leading complaints, and to indicate their commoner causes and associations, and possible physiological interpretations, while leaving to Dr. Maurice Campbell and Dr. T. C. Hunt their more special implications and features in cardiac and digestive disorders respectively.

In all diagnostic problems, and more especially in those in which we have to rely upon our patients' description of subjective phenomena (because objective signs are scanty or absent), it behoves us to cultivate methods of interrogation, necessarily varied from patient to patient, which seek always to enhance the accuracy of our informant's story, and to evoke in our own thought a clearer concept of the physiological disturbance than the bald announcement of a symptom can conjure. We should seek not only for symptoms, but also for their meaning and mode of production.

Analysis of Common Symptoms

The layman may speak of a "pain in the stomach" and mean thereby either a pain or a discomfort situated anywhere between the mid-sternum and the symphysis pubis. By "flatulence" he may mean eructation or passage of flatus, or merely a sensation which he believes to be due to the presence of wind in stomach or bowel which he cannot dislodge. Having listened patiently to the initial story we may therefore reasonably ask, in relation to the leading complaint, whether it is, in fact, "pain" or "discomfort." Given that it is a discomfort we need to know something of its degree and its character, and we should proceed to ask for a more detailed description, at first without undue prompting. A feeling of "fullness" or "weight," a "bursting sensation," "pressure," "throbbing," "sinking," or "emptiness," "burning," and "nausea" are all uncomfortable sensations which may be referred to the epigastrium, and each has its special significance.

Having considered character and degree, we may next, as in the case of a pain, put questions in respect of the temporal and spatial characters of the discomfort. How often does it occur? How long does it last? Are there any special times of occurrence? Where is it felt? To what extent is it localized or diffused? Is it accom-

panied by any "spread," shall we say, up into the chest, or any "reference," shall we say, through to the scapular angle? In the case of these "spatial" qualities the patient's gesture should be carefully noted. We should also ask what circumstances aggravate or relieve the symptom, and, finally, whether it is accompanied by any other symptom, such as breathlessness, eructation, vomiting, or general weakness or malaise.

Import of the Patient's Description

It is remarkable how "near to the mark" such an interrogation may sometimes lead us. In conjunction with a full history and a physical examination it not infrequently establishes a diagnosis of organic states which later investigations only serve to confirm; alternatively it may give type to a functional error and a clue to treatment which no amount of investigation could possibly provide. Let us take some of the descriptions to which I have referred, and consider their import. A feeling of "fullness" or "weight" may be due to a condition as serious as a carcinoma of the liver and as innocent as a nervous dyspepsia or an excess or bolting of unsuitable food. In the first of these the sensation will tend to be continuous and unrelated to the digestive cycle; it will be likely to occupy the right rather than the central epigastric zone; it is commonly aggravated by lying or turning on one or other side in bed, and sometimes by a deep inspiration; it is nearly always accompanied by loss of weight and appetite, and changes in the facial appearance; these manifestations can, however, all precede palpable enlargement of the organ.

On the other hand, a feeling of "weight," "fullness," or "pressure" occurs in the absence of organic disease, and is common in nervous or depressed subjects; it is then apt to be post-prandial, although it lacks the precise relationships of an ulcer pain; aerophagy and eructation are common associations; the gesture is diffuse or vague; the symptom coincides with phases of anxiety or general depression of health, and may be directly evoked by emotion; there are other attendant symptoms too, both physical and psychological, which point to a general or nervous rather than a local or organic cause.

"Bursting sensations" are usually associated with more or less eructation, and are frequent in gall-bladder disease. Epigastric "throbbing" is rarely complained of by patients with organic heart disease; it is not a symptom of gastric disorder; it is frequently associated with an unduly pulsatile abdominal aorta, and is principally encountered in nervous subjects of the female sex; occasionally it is complained of by patients with hyperthyroidism. Feelings of "pressure" and "wind" in the lower sternal and high epigastric zones are often attributed to indigestion when they are really cardiac in origin. The fact that they occur after food naturally suggests this, but when it is found that they also accompany exertion and particularly exertion following a meal, and that they are relieved by rest, then the possibility of coronary artery disease must be seriously considered even when pain is denied.

"Burning sensations" in the epigastrium usually mean the familiar "heartburn," and on closer inquiry it is found that they are also felt at various levels in the sternal region, that is to say, in the course of the gullet. They are temporarily eased by alkalis. Their relationship to food is more variable and indefinite than is the case with gastric pain of organic origin.

"Empty" or "sinking" feelings, as is widely known, tend to occur two hours or more after food; 11 to 11.30 a.m. is perhaps their favourite hour. They proclaim an empty stomach and are more common in the brain-worker and the nervous individual, and can be shown to accom-

* Read in opening a discussion in the Section of Medicine at the Annual Meeting of the British Medical Association, Oxford, 1936.

pany "gastric hurry" as indicated by x-rays or the fractional test meal. The same feelings occur in the presence of a duodenal ulcer, and may replace as well as accompany the more characteristic "hunger-pain." "Pressure" and "wind" two or three hours after food are other variants on the epigastric "gnawing" of duodenal ulcer, and I have known the diagnosis to be missed in many cases because the patient insisted on the use of these words in preference to "pain."

Nausea we have all experienced, and while it may be felt as high as the pharynx it is also commonly an epigastric sensation. Experienced in the early morning, before food is taken, it is a familiar symptom of pregnancy and gastritis, whether alcoholic or infective. In association with headache it is a symptom of migraine or occasionally of astigmatism; with tinnitus and vertigo of labyrinthine disease. Coming at irregular intervals and "in waves" it is a common symptom of biliary tract infection. When transitory, and especially in young women, and when felt in the throat, it may express emotional disturbance.

Of the physiology of all these symptoms we still require more accurate knowledge. Experimental studies, radiology, and clinical inference from associated objective findings have, however, given us reason to suppose that "heartburn" is due to minor spasmodic contractions of the gullet; that nausea is due to relaxation or a sub-normal tonus in the gastric or pharyngo-oesophageal musculature; that "pressure feelings" often accompany exaggerated tonic action; that "sinking" accompanies the increased peristaltic and tonic activity of emptiness and hunger; that a normal air-content in a hypertonic stomach or excess of air in any stomach as the result of aerophagy may give rise to sensations of "pressure"; and that neither a high nor a low nor an absent acidity is capable of giving rise to any distinct sensation in the epigastrium whatsoever, although acid eructated into the pharynx produces a scalding sensation there.

Gastric Flatulence

Gastric flatulence may be odourless or foul. When it is foul it is generally due to putrefaction of food in a stagnant viscus and is usually symptomatic of pyloric stenosis or obstruction. It has the odour or flavour of sulphuretted hydrogen. It is not produced in sufficient quantities to cause gastric discomfort by itself or to occasion frequent or noisy belching. Eructation of bowel flatus is diagnostic of a gastro-colic fistula, which may complicate an anastomotic ulcer or a carcinoma of the transverse colon.

The amount of gas produced in the stomach by diffusion is probably too small to cause symptoms of any kind. Odourless gas which leads to frequent or noisy eructation may, in fact, be partly or wholly attributed to aerophagy in every case. It should, however, be remembered that aerophagy can occur in the presence or absence of an organic disease. The act of eructation is noticeably preceded by a gulp with closed lips. In nervous subjects aerophagy may be the whole cause of a persistent dyspepsia of many years' duration. In such cases it may sometimes be cured by a simple explanation at a single sitting.

Of the organic states complicated by aerophagy gallstones and duodenal ulcer are, perhaps, the commonest. I am inclined to think that aerophagy also helps to explain the eructation which concludes and seems to relieve some anginal attacks. This association with angina and the arrival of anginal pain after meals account for many mistaken diagnoses. I have not been at pains to discover how many cases of angina have been referred to me as dyspepsias, but I know it is no inconsiderable proportion of the whole.

Conclusion

It has been my chief purpose to indicate the important part which a close analysis of common symptoms may play. It would take too long to buttress my belief in such analyses by case-histories for the simple reason that in the more difficult cases it is only by very detailed analyses that results are achieved. In straightforward cases a brief and simple interrogation is often adequate. In difficult cases time spent in a long interrogation is never wasted time. To-day we have the radiologist and chemist to help us, but they cannot diagnose coronary artery disease or early carcinoma of the liver, and in the great majority of cases of epigastric discomfort and flatulence they would be compelled to report negative findings. Negative findings may be very valuable, but of equivalent or greater value is a positive conclusion based upon a knowledge of the patient's body, and mind, and environment, and a reasoned physiological interpretation of his subjective complaints.

THE TUBERCLE BACILLUS AS A CAUSE OF OBSCURE DISEASE OF THE EYE*

BY

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This subject is of great importance, and although it is not yet possible to arrive at any definite conclusions the time has come for us to review the available evidence, even if the result of our doing so is to return that useful Scottish verdict of "not proven."

Friedenwald,¹ in a book published in 1930, says that "an uninitiated reader of the literature might easily be led to suppose that in Germany and elsewhere on the Continent tuberculosis is quite a different sort of disease from that which we find in this country, while, on the other hand, the teeth and tonsils of the British and American people were in some obscure way stimulated to most malicious behaviour." Such a statement is, I think, largely true to-day, though the supposed ravages of the tubercle bacillus are possibly covering a wider area in the Anglo-Saxon countries than was the case six years ago.

One of the functions of the opener of a discussion is to attempt to define its limits, and here I am in a quandary through the use of that indefinable adjective "obscure." Used in its present context I take it to exclude all obviously tuberculous lesions such as conglomerate tubercle of the iris, miliary tubercles of the choroid in the terminal stages of tuberculous meningitis, and so on. What diseases, then, ought we to consider, or, to put it another way, what diseases of the eye, although at first sight they are not obviously tuberculous, can be ascribed to the activities of the tubercle bacillus?

In the conjunctiva the outstanding example is phlyctenular disease. Mr. Sorsby has done some excellent work on this subject, and I hope he will speak on his findings. In the cornea there are various types of deep keratitis and possibly some of superficial punctate keratitis. The uvea is, of course, a "gold mine" for the tubercle enthusiast, and according to some of the Continental observers almost every type of iritis, iridocyclitis, and choroiditis may have a tuberculous origin, including sympathetic ophthalmitis. In the retina, apart from contact infection from the choroid, perivasculitis, retinal haemorrhages, retinitis proliferans, and angioid streaks are on the list, while in the optic nerve there are retro-

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