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Peptic Ulceration

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It is the modern fashion to speak of peptic ulcer as a psychosomatic disorder, by which we mean that psychological disturbances play a considerable part in the origin of the disease. It is, however, now universally accepted that the actual development of peptic ulcer is due to the erosive action of the acid gastric juice upon an area of mucous membrane that may be presumed to have become devitalized in some way and thus to have lost its normal powers of resistance to its own enzymes. Psychological disturbances may possibly influence this process by increasing the volume of acidity of the gastric juice or by reducing the resistance of the mucous membrane or perhaps by both. In examining the significance of psychological factors in peptic ulcer it is therefore necessary first to study the extent to which psychological stimuli can influence gastric acidity and the condition of the gastric and duodenal mucous membranes.

In the second place, as some people develop ulcers and others do not, we must try to discover whether a predisposition to ulcer is related to any particular type of psychological make-up or temperament.

Thirdly, since it is claimed that ulcer may be due to the direct effect of acute psychological stresses, such as acute worries or anxieties or severe emotional experience, we must attempt to find out the extent to which the onset of an ulcer or the development of a complication is preceded by such a stress.

Influence of emotional factors on gastric secretion and motility

Common experience allows ready acceptance of the view that psychological states can influence the gastric functions. Well known, for example, are the anorexia and nausea that afflict examination candidates and timid lecturers, the empty feeling in the epigastrium in situations of danger, the vomiting as a response to disgusting sights. Indeed the word disgust itself is founded on emotional aversion to the sight of food.

Scientific studies give much confirmatory evidence. Pavlov's (1910) observations on the appetite juice showed clearly that the acid secretion is responsive to psychic stimuli, and more recent workers have proved that motor and circulatory changes are also brought about in the same way.

The clearest proof has come from the well-known study by Wolf & Wolff (1943) of their subject 'Tom'. They were able to show that depression of the secretory, circulatory and motor functions of the stomach were regularly associated with emotional states of defeatism characterized by a reaction of flight or withdrawal from an emotionally charged situation. Conversely, acceleration of the gastric functions was associated regularly with reactions of internal conflict, with an unfulfilled desire for aggression and fighting back. Profound and prolonged emotional disturbances of this kind led to marked and persistent increases in gastric activity, with great engorgement of the mucous membrane, rendering it unusually susceptible to trauma, so that even trifling injuries resulted in haemorrhages or erosions.

These findings in a single subject cannot necessarily be regarded as showing the normal response of the stomach to changing psychiatric states; indeed in a different subject, a young negro woman, two other workers, Crider & Walker (1948) obtained contrary findings. Clearly such discordance of result does not invalidate the general thesis, for it may well be possible that the degree of gastric response varies with the individual. Further proof of the influence of psychical states on gastric function is provided by the prolonged observations of Wolf & Glass (1950) on 'Tom's' gastric functions in relation to records of his emotional events and psychological responses, as indicated by his manner, behaviour, dreams and talk. They concluded that all the secretory functions, as well as motor and circulatory activities, could be correlated with emotional conflicts.

Observations by other psychiatrists, such as Mirsky, Kaplan & Broh-Kahn (1950) and Margolin (1950), have been claimed to indicate that not only conscious but also unconscious or subconscious psychological stresses affect the stomach; in investigation of the unconscious, however, so much depends upon the interpreter that it is almost impossible for the detached student to arrive at an unprejudiced conclusion.

As to the mechanism by which psychic states influence the stomach, it has always been assumed that the pathway is a nervous one, *via* the parasympathetic centre and the vagus trunks. This assumption is supported by the observations of Sztat (1949) and of Wolf (1949) that in fistulous subjects turgidity of the gastric mucosa provoked by anger no longer occurred after the performance of vagotomy.

Such a nervous mechanism may be supposed to act partly by causing spasm with ischaemia and devitalization of the mucosa and partly by provoking excessive acidity. It is possible that ischaemia of the mucous membrane may also be caused by the operation of a vascular shunt.

Personality of ulcer patients

Psychiatric investigations of the temperamental traits of ulcer patients have yielded some remarkable findings. Thus Alexander (1934), on the basis of six cases, presented the view that the characteristic feature in ulcer patients was a fundamental conflict originating in the infant's gratification at receiving milk from the mother's breast. More precisely, oral-receptive tenderness and the wish to be taken care of

and loved are repressed and over compensated owing to 'a narcissistic injury caused by the infantile claims and manifested on the surface in a sense of inferiority on the one hand and guilt and fear on the other'.

Similarly, Mittelman & Wolff (1942) in thirty cases of duodenal ulcer found in every instance reactions of intense anxiety, insecurity, resentment, guilt and frustration, with compensatory efforts to bolster self-esteem by a show of independence, self-sufficiency and perfectionism. Resentment and manifestation of aggression and hostility stood out; findings of guilt and self-condemnation were common.

Such judgments seem surprising to those clinicians who take care of many ulcer patients and judge them, for the most part, to be decent hard-working responsible citizens.

Mittelman & Wolff (1942) also believed that untoward childhood experiences may have helped to produce the emotional insecurity found in their patients. They note that in every instance the home had failed to provide a stable background owing to such causes as unhappy married life of the parents, separation, loss of the father or early remarriage of the mother. This picture also is difficult to apply to the generality of ulcer patients.

Many other psychiatrists have emphasized the significance of childhood factors, such as the number, age and sex of the siblings, the patient's position in the family, his mother's age at the time of his birth, his social and educational record. To take two examples, Draper & Touraine (1932) on the basis of thirty-three cases have claimed that the siblings of ulcer patients contain an undue proportion of brothers; this, they claim, supports their theory of a masculine-feminine conflict. Ruesch (1948) has stated that ulcer subjects are generally younger children and separated widely in age from the nearest siblings.

So far as such claims are capable of being judged, they have been refuted in their entirety by the investigations recently reported by Kellock (1951), who carried out a thorough study of 250 ulcer patients and an almost equal number of controls. His work makes it clear that in the number, age, sex and spacing of siblings, the separation, remarriage or death of parents, the health, scholastic ability and other related factors affecting the patients' childhood days, there are no differences between ulcer patients and others.

However, though much that has been written on this subject would seem, to the uninitiated, to be somewhat exaggerated, there is no doubt that the general proposition of an ulcer personality is sound. Every experienced clinician will agree that the majority of ulcer patients are of a special type, as distinctive in its way as the different type to which most gall-bladder patients belong. Generally the ulcer patient is restless, anxiety-driven, ambitious, compulsive. He is conscientious and apt to worry unduly if things are not just right. In its more severe forms this personality pattern approximates to an obsessional anxiety state. This temperament is often reflected in the alert tense expression and in a characteristic facies, with clenched jaw, a tight upper lip and deeply etched naso-labial folds. Sometimes indeed these features are so pronounced as to give a false impression of aggressiveness.

Precipitating factors

A good deal of evidence has accumulated to suggest that activation of an ulcer, or such complications as haemorrhage and even perforation, may sometimes be precipitated by acute emotional stresses.

There is *prima facie* evidence for such a proposition. It has been known for a long time that electrical stimulation of the hypothalamus in experimental animals sometimes leads to the formation of acute ulcers, and Cushing (1932) has noted the same result in human subjects after cerebellar operations.

Recently the most convincing evidence has come from the careful observations of Davies & Wilson (1937). They studied altogether nearly three hundred cases of peptic ulcer and, unlike most previous workers in this field, a control series consisting of one hundred hernia cases. They found that in 84% of the uncomplicated cases of ulcer, the first symptoms of dyspepsia had been preceded by some notable psychiatric stress, whereas in only 22% of the control series were such stresses found to have preceded the onset of the hernia. Financial difficulties and troubles connected with employment constituted most of the stresses, the former especially in older, the latter in younger, patients. Domestic troubles and sexual discord were less common. Among the complicated-ulcer group haematemesis was found to follow some form of psychiatric stress in sixteen of twenty-five cases.

In a later paper Wilson (1939) states that as a general rule these psychic stresses are not so great as to disturb most people much, but they give rise to an abnormally severe gastric reaction in emotionally susceptible people.

Though the evidence of Davies & Wilson (1937) is highly circumstantial, it must be admitted that clinical workers on the whole are unwilling to accept the view that psychic stresses can be held responsible so often. A negative opinion of this sort is difficult to substantiate, for stresses due to financial and sexual matters are not easy to unearth; it should, on the other hand, be possible to obtain accurate figures about change of employment, illness in the family and some of the other stresses that have been incriminated, and it is a matter of general experience that such stresses are rarely to be found as factors precipitating the onset of ulcer.

Other considerations

Few would deny that psychic factors play a part in peptic ulcer, but there is a risk that they may be given too much weight, to the exclusion of other factors of perhaps equal importance. This may be illustrated by reference to some facts about the incidence of ulcer.

It is well recognized that during the past half century peptic ulcer has shown a great increase in frequency in the western world, and this is commonly attributed to the wear and tear of modern life and the increased psychic stresses to which twentieth century man is subject. But it must be remarked that twentieth century

woman is equally subject to them—indeed probably more so, in view of the emancipation of her sex—yet one of the most striking features of the recent trend in the incidence of ulcer is that the rise in frequency affects males only.

Wartime statistics of perforated ulcer well illustrate this. It must be remembered that in Great Britain during World War II women were subject not only to the same fears and anxieties as men, but also to greatly increased worries over short rations and shopping difficulties; yet the perforation rate in men rose to thrice the pre-war value, while the rate in women was unaltered.

The wartime perforation rate illustrated another fallacy that has gained wide currency among psychiatrists. The increasing incidence was first noted in London during the air bombardment of 1940-1; the two medical students (Stewart & Winsler, 1942), who reported it, wisely drew no conclusions, but many subsequent writers have attributed it to the acute anxiety and fear engendered by the raids.

However, by a curious chance our Glasgow experience showed the assumption to be incorrect, for here the highest incidence of perforation synchronized exactly with the peak in London; the few serious raids came at a later date, when the incidence had already reached its maximum (Illingworth, Scott & Jamieson, 1944 *a, b*).

Although the acute fear of air raids could thus be discounted, it still seemed justifiable to attribute the rising perforation rate to anxiety and worry over the war situation, but this explanation too was rendered doubtful in the following year when a similar rise in perforation rate developed in Scandinavia, not only in occupied Norway, but also in peaceful and prosperous Sweden.

The geographical incidence of peptic ulcer has also been cited as evidence of the importance of psychic factors. Some of the aspects of geographical incidence do indeed give a good deal of support to this view. For example, there is clear evidence that, whereas ulcer is uncommon in negroes in Africa, it is almost as common as in whites in the northern states of the U.S.A. On the other hand, however, the description of ulcer as a 'wound stripe of civilization' finds no confirmation in south India, where ulcer is common among the most primitive members of the coolie class.

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Anorexia Nervosa

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Anorexia nervosa may be looked upon, in a sense, as the antithesis of obesity in that it is a disorder of appetite leading to a reduced intake of food and a resultant fall in body-weight. It differs from obesity in two other important aspects. First, it is relatively uncommon; for example only twenty-five cases have been treated in Professor D. M. Dunlop's wards in the Royal Infirmary of Edinburgh in the past 15 years. Secondly, the condition is brought about by the development of a serious 'morbid mental state', as was recognized by Sir William Gull (1874) in his classical description of the disease, though modern work suggests that obesity may have certain psychological connotations, it can hardly be said to arise from serious mental disorder.

Aetiology

It is not difficult to recognize the significance of the 'morbid mental state' in the aetiology of anorexia nervosa, but it is much less easy to define the nature of the mental disturbance leading to such a marked abnormality of behaviour—the self-starvation, which is the most striking feature of the disease.

At one time it was popular to describe the patients as sufferers from hysterical anorexia, but there are objections to this classification. Nemiah (1950), who made a detailed analysis of fourteen cases, concluded that the disease was neither an hysterical disorder nor an obsessional state and that it was not yet possible to elaborate a detailed hypothesis about its aetiology. At the same time he emphasized certain features that he considered of importance in the previous histories of his patients. Amongst these he mentioned the frequent occurrence of an over-protective parent, conflicts in the patient's mind between the need to depend upon a parent and the desire for independence, difficulties in forming relationships with other people, an emotional frigidity and problems connected with the sexual significance of the mouth. Ryle (1936) noticed that the disease was more common in private than in hospital practice and concluded that it occurred in homes 'where sensitive natures and solicitude flourished side by side'. He mentioned several circumstances considered to be initiating factors, such as misguided attempts as 'slimming' and unfortunate love affairs. He was careful to state that there was usually a multiplicity of factors in the aetiology of any individual case. It seems, then, that the disease occurs only when suitable initiating factors operate in the life of one who is susceptible by virtue of her inherited constitution and having experienced certain difficulties in her earlier days. We know something of the nature