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CLASSIC PAPER

Dyspepsia In The Forces

Commentary

P Connor

Much has changed in our understanding of dyspepsia since 1941, but the general approach and subclasses referred to in this 'Classic Paper' are still in use today.

With little doubt, the balance has changed from peptic ulceration, which was clearly the predominant consideration in 1941 accounting for just over 50% of admissions due to dyspepsia in this paper, to gastro-oesophageal reflux disease and functional dyspepsia today. It is interesting, however, although of little surprise, that 'functional dyspepsia' was still a considerable cause of illness at that time.

The incidence of peptic ulceration was almost certainly underestimated in 1941, despite barium studies. Today, it is rare to see a young patient with peptic ulcer, although not uncommon to get referrals on that basis. In those with a peptic ulcer, we routinely check for the existence of *Helicobacter Pylori* (HP), the causative factor in up-to 95% of duodenal ulcers and 85% of gastric ulcers, provide eradication therapy, and providing compliance is good will effect a cure in 95% of patients. Those without HP infection are usually drug related and identification of the causative drug/s allows consideration of withdrawal, or co-treatment with a protective agent. Dietary management, as can be seen from the Letheby Tidy paper, was the mainstay in 1941, and only partially effective in reducing symptoms, without much hope of effecting a cure. It is uncommon to deny recruitment to, or medically discharge, a soldier because of previous or newly diagnosed HP related peptic ulcer disease – whereas in 1941 it was a clear bar to service.

Functional, or non-organic dyspepsia, is as common today as it was in Letheby Tidy's paper. It is interesting to see that although we have a greater understanding of the basis of functional dyspepsia than there was in 1941, over investigation and treatment remain and as then, are still considered to re-inforce the patient's illness. It is still the case that " ….the group as a whole, requires some degree of firmness…." Although unlike in 1941, I feel they do not get this in civilian life anymore.

In summary, it is always a pleasure to review the way we managed patients prior to modern diagnostics and therapeutics. It shows us how far we have come, and indeed often, as in the case of functional dyspepsia, how far we still have to go.

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Dyspepsia in the Forces

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The large number of gastric cases in the earlier convoys from the B.E.F. took everyone by surprise and it was quickly realized that a high proportion were definite peptic ulcers. The frequency of dyspeptic trouble amongst those joining or called up for the Services is now a matter of common knowledge. Nevertheless one must not exaggerate the position. Dyspepsia is not the commonest cause for admission to hospital or for invaliding from Services, and the Army is, as a whole, at the present time extremely healthy.

Classification of the Types of Dyspepsia

Dyspepsia, as it is met with in the Army as a whole, can be classified in three principal groups.

1. *Peptic Ulcer* - In this group are all cases with positive radiographs. It also includes certain "negative X-ray" cases in which clinical specialists are satisfied that an ulcer has been present, as may occur with cases of gastric ulcer when the barium meal is carried out after a course of treatment.
2. *Gastritis* - This group is well recognized, but a strict definition is difficult. The symptoms are persistent or recurrent, but radiographs are negative. The term "functional dyspepsia" would be preferable if there were agreement as to the meaning of the word "functional". If used for this group it should imply absence of demonstrable disease in the stomach and duodenum and elsewhere in the body but without other implications.
3. *Transient Dyspepsia* - This frequently occurs among new recruits before they are acclimatized to Army routine. These men can be dealt with satisfactorily in the unit and consequently this condition should not be met with in hospital.

There is a miscellaneous group including such conditions as reflex dyspepsia due to the appendix, gall-bladder, etc., but the number of these in the Army is small.

Dyspepsia occurring as a manifestation of well marked psychoneurosis is not included.

Malingering is rare. Exaggeration of symptoms is by no means uncommon and is not always the fault of the man. Exaggeration of symptoms tends to increase progressively with each admission to hospital, with each repetition of investigations and over-careful and conscientious inquiry into symptoms and with undue retention in hospital for treatment.

Incidence in Hospitals of Cases of Dyspepsia

In large hospitals dyspepsia will usually account for 15 per cent to 20 per cent of all medical cases and the proportion may be even higher, but this gives an exaggerated view of the incidence in the Army. The proportion of cases of dyspepsia to total admissions to hospital has remained fairly stationary in recent months.

What Proportion of Cases Admitted to Hospital for Dyspepsia have Proved Ulcers?

The large hospitals get a higher proportion of the cases which medical officers in the units believe to have definite ulcers. Secondly, there is a tendency to transient dyspepsia in the recruits. This group can be properly retained in the unit, but if certain medical officers send these cases to hospital it will reduce the proportion of peptic ulcers. The figures may therefore vary considerably in different hospitals.

Table 1. Analysis of 2,500 admissions to military hospitals for dyspepsia.

	Per cent	
Duodenal ulcer	32.5	
Gastric ulcer	9.2	
Peptic ulcer	8.0	
Hæmatemesis and melæna	2.2	
		Per cent
		51.9
Gastritis (functional dyspepsia)		35.0
Gastro-enteritis and colitis		6.8
Appendicitis		2.3
Cholecystitis		0.8
Carcinoma		0.3
Miscellaneous		2.9
		100.0

Table 1 is compiled from 2,500 consecutive cases admitted for dyspepsia to several hospitals in different parts of the country, most of the returns covering a period of twelve months or more. The returns are not all on the same system. Certain hospitals have used such terms as "juxtapyloric ulcers." These latter have been entered as "peptic ulcers." Duodenitis has been regarded as duodenal ulcer. Peptic ulcers constitute 51.9 per cent. Gastritis, which accounts for 35 per cent, will here include such cases of the group of transient dyspepsia as may reach hospital. There is a small group of miscellaneous conditions. The proportion ascribed to appendictis and cholectystitis are in reasonable agreement with the figures given by Rivers and Pereira for the Mayo Clinic. The proportion of duodenal to gastric ulcers is about $3\frac{1}{2}$:1.

Why is the Incidence of Dyspepsia in the Army so High?

There is another question which should be considered first. Is the incidence of dyspepsia higher in the Army than in civilian life? Did the dyspepsia originate in the Army or previously?

Newman and Payne in their study of cases of dyspepsia evacuated from the B.E.F. early in the War found that 92 per cent of ulcers had originated in civilian life and only 8 per cent subsequent to joining the Service. This result has been criticized on the grounds that the cases, though unselected in this country, had, in fact, been selected in France since only a proportion of the admissions to hospital for dyspepsia were evacuated home. Gibson Graham has taken records of cases admitted to hospital over a period of fourteen months, only a few coming from the B.E.F., and finds that 94 per cent of ulcers originated in civilian life with a previous duration of six to seven years. Further, in the group returned as gastritis there is a history in civilian life in 79 per cent with an average duration of seven years. Thus there is no evidence of any undue fresh development of the severer forms of dyspepsia in the Army. The low peace-time figures for admission to hospital also support this statement. These studies draw attention to the early age at which dyspepsia commences in cases which subsequently prove to have ulcers. It is often well marked in the early twenties.

What is the Incidence of the Severer Dyspepsias in Civilian Life?

There has been an enormous increase in gastro-duodenal disease in recent decades. Denys Jennings concludes that there are no statistics from which this increase can be accurately measured. Fig. 1 (*Lancet*, 1940, i, 446, fig. 13), which is taken from his article, is constructed from the Registrar-General's Returns, and shows the annual deaths from peptic ulcer in males per million living. It will be seen that the deaths from peptic ulcer have increased several fold since the last war. The same is also true of other countries.

With regard to the group of gastritis, there are no statistics which can give us an indication of its incidence.

The only publication as to gastric condition among civilians during the present war of

which I am aware is that of Melton in February, 1940, which records that the admissions to Lewisham Hospital, both for hæmatemesis and for perforated ulcer, have doubled since the onset of war.

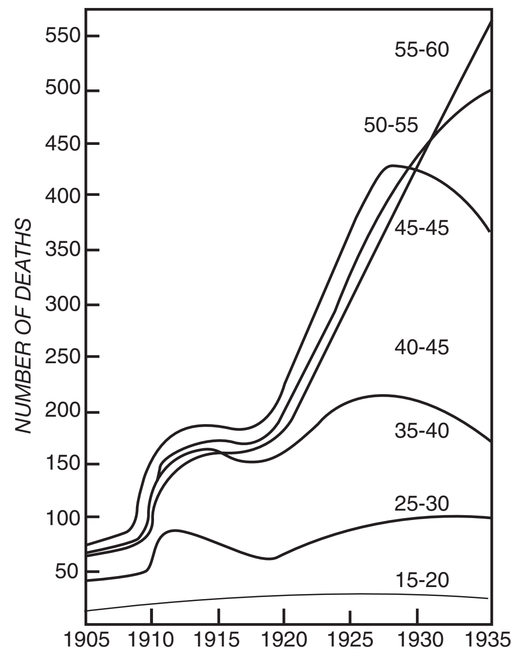

Fig. 1. Annual deaths from peptic ulcer in males in certain selected five-year age groups. From the statics of the Registrar-General. The sudden rise in 1911 is due to the inclusion (for the first time) of deaths from duodenal ulcer. (From "Perforated Peptic Ulcer," by Denys Jennings, *Lancet,* 1940, i, 446).

Do Chronic Dyspeptic Conditions Relapse more Quickly in the Army than in Civilian Life?

While it is clear that a higher proportion of cases of gastritis and an even higher proportion of peptic ulcers originated before the war, the question still arises whether relapses develop more quickly in the Army than would have happened in civilian live. In the Army admissions to hospital are regarded as a relapse and all recurrences will involve such admission. In civilian life, on the other hand, men will often be treated at home for milder recurrences. Some of the men, proved to have peptic ulcers after joining the Service, have had various recurrences in civilian life without entering hospital, and some have never been in a hospital, although they have been treated for dyspepsia over long periods. The frequency of recurrences in civilian life is illustrated by Bashford's study of Post Office employees. He found that 33 per cent of cases of duodenal ulcer and 50 per cent of cases of gastric ulcer were absent from duty for recurrences for two weeks or more every year. What passes as a slight recurrence in civilian live with a few days rest on milk diet at home, involves admission to hospital in the Army and counts as a relapse.

Bearing in mind this difference in meaning, I think relapses have developed more quickly in the Army. There is no doubt that a high proportion of cases of peptic ulcer have been admitted to hospital within a few weeks or months of joining the Service. Newman and Payne record that men often think that the attack is the most severe which they have had.

Why do Cases of Organic Dyspepsia Relapse in the Army?

1. *Army Diet and Army Cooking* - The Army diet is more liberal, contains more meat and is heavier than the normal diet of the mass of the population. The small proportion of cases admitted to hospital for dyspepsia developing after joining the Service proves that the diet is satisfactory for men who have not previously suffered from such condition.

Diet and cooking may be factors in the rapidity with which dyspeptics relapse in the Army, but they are not the essential cause. It is the the Army routine which is incomfortable with the continuous maintenance of efficient health in those who are already the subjects of peptic ulcer and certain grades of gastritis.

A bus-driver, the subject of peptic ulcer, once described his routine in civilian life. His trip took eighty minutes, and between each trip he had milk or light food and frequently took Maclean's powder. His régime thus was not far different from Sippey's diet. With this routine he managed to carry on successfully with occasional sick absences for a few days or a week or so. In the Army he was admitted to hospital after a few weeks.

The unsuitability of men with peptic ulcer for the Services is no new discovery for the Army authorities. A man in peace-time may live in married quarters and take money instead of part of his ration, but it was found many years ago that if a man has a peptic ulcer he could not stand Army life and it has long been a regulation that he should be invalided out of the Service.

2. *Influence of Psychological Factors* - It may happen that, in the case of a man reporting sick with complaint of dyspepsia, the medical officer, on a general survey, may decide that he is primarily a psychoneurotic and refer him to a psychiatric specialist. If he agrees the man may be discharged forthwith from the Service or sent into hospital under a specialist. I have seen a certain number of these cases thus admitted to hospitals, and, as a general physician, I would agree that they are essentially psychoneurotic and not primarily dyspeptic.

This, however, is not the whole problem. The question arises as to the frequency of psychological factors in the development or recurrence of what may be called organic dyspepsia, that is peptic ulcer and some grade of chronic gastritis.

Newman and Payne decided that there was practically no evidence of psychological factors. Certain other investigators are in agreement, but others would classify all X-ray negative cases as neurotic.

The possibility of psychological factors is obvious, including such disturbances as worry about business and separations from home and family. But one of the greatest anxieties of civilian life, insecurity of occupation, is removed, for a man cannot lose his job, is fed and clothed and paid regularly. Attention may be directed to the acknowledged rapidity with which ulcer patients lose their symptoms under a dietary régime in hospital without any attention to psychological aspects and in contrast to the more obstinate symptoms of chronic gastritis.

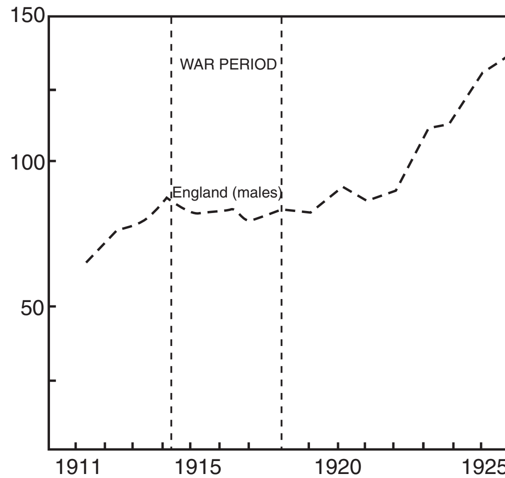

Fig. 2. Number of male deaths in England from all peptic ulcers per million of the population (Registrar-General). (Adapted from "Perforated Peptic Ulcer," by Denys Jennings, *Lancet,* 1940, i, 444).

The psychological disturbances present in this war existed also in the last war, with the exception of bombing with has only become important in the last few months, and hence it is not irrelevant to inquire what effect the last war had on the incidence of peptic ulcer. Fig 2 (*Lancet,*1940, i, 444, fig. 6), which is also taken from Denys Jennings' article, shows the annual death from peptic ulcer in males per million living recorded in the Registrar-General's Returns. Fig. 1 shows that the rise had begun before 1911 and continued until 1914, Fig. 2 shows that, during the war period, the incidence was stationary or even fell slightly. After the war the rise immediately began again. Thus the rise in the annual deaths per million living was checked during the was and commenced again at its conclusion.

This is in agreement with the observations in France during the last war that peptic ulcer and all dyspeptic disturbances were noticeably rare. In the "Medical History of the War," gastric disturbances are scarcely referred to and duodenal does not appear as a separate heading in the statistics. The last war affords no evidence that the relapses in cases of peptic ulcer and chronic gastritis can be attributed to concomitant psychological disturbances. It should be realized that there is no evidence that the present war has been accompanied by any increase in the incidence of peptic ulcer or other severe gastric disturbances. What the present war has so far revealed is the unsuspected frequency of peptic ulcer and gastritis in the civilian population before the War commenced and the not surprising fact that organic dyspepsia is incompatible with Army life.

Gastritis

The group formed 35 per cent of the 2,500 cases mentioned above, but as a representation of its frequency the figures are open to the fallacy that a smaller proportion of this group than of peptic ulcer find their way into hospital.

Graham and Kerr find that there is a history of similar symptoms previous to joining the Service in 80 per cent of this group with an average duration of seven years. This is evidence of the prevalence in civilian life and it is possible that this condition has increased *pari passu* with peptic ulcer in recent years but, except from the limited aspect of gastroscopy, little attention has been paid to it.

The symptoms in many cases so closely resemble those of the ulcer syndrome that they may almost be described as near-ulcers. A few are undoubtedly ulcers, negative to X-rays, but this is not the full explanation. It is the common experience of civilian practice that the these cases rarely develop demonstrable ulcers or the recognized complications of that condition.

Some of these cases approach the border line of definite psychoneurosis and there appears to be a greater aura of psychological factor in this group than in frank ulcers. But it is not the primary factor throughout, nor do I believe that psychiatric treatment will rid men of their symptoms. These men are not malingerers, but they rapidly become exaggerators as the result of over-investigation and treatment and the group, as a whole, requires some degree of firmness which, in fact, they receive in civilian life and to which they have to conform unless they are prepared to lose their occupation.

In peace time these cases may be sent by their doctor to a hospital where they are admitted and "investigated fully." If "all investigations are negative" they are then disposed of in a third common phrase: "Sent back to his doctor." The man may continue to visit his doctor or an out-patient department, but it is important to note that in most instances he succeeds in continuing at his work.

Gastroscopy takes the investigation a step further, but at present it has provided no solution and only adds a diagnosis in a small number of cases. Gastroscopy justifies itself in many directions. Thus it can occasionally establish the presence of a carcinoma or of an ulcer not revealed by X-rays, and it can recognize that a gastric ulcer is not healed although all symptoms have passed. But

when other changes in the mucous membrane are in question, gastroscopy has not yet sufficiently established the limits of normal or the interpretation of the abnormal.

In the Army a short course of treatment for men in this group is rarely successful in ridding them of their complaints, for symptoms are more obstinate and more continuous in this group than in frank peptic ulcer. As soon as possible after the investigations are complete and after a short period of treatment, they should be sent back to their units without waiting for complete relief from dyspepsia. They may be given such advice and assistance, medical and psychological if desired, as is compatible with Army routine. It is then the function of the medical officer of the unit to keep them on duty and a number of these men do, in fact, make useful soldiers in spite of their disabilities. If the attempt to keep them on duty fails, but not until there has been a proper trial, they should be sent again to hospital and, in many cases, they should then be invalided out of the Service. Medical officers of units often fear that an ulcer has been overlooked, an some complication may occur for which they will be blamed, but in fact such catastrophes are extremely rare. A more excusable difficulty rises from the tendency to vomiting, which also occurs with peptic ulcers. A possible explanation is that the men get unusually hungry after a morning in the open air and eat too hearty a meal. In my experience, it is rare for a second investigation to be positive when the first has been negative. I would also call attention to the value of careful tests for occult blood.

Transient Dyspepsia

Judged from the figures from attendances at Medical Inspection Rooms of Training Centres, transient dyspepsia is more frequent that all the other groups together. It is not so common in hospital wards and, indeed, ought to be unknown there. We are here getting away from hospitals and looking at dyspepsia as seen in the units.

A healthy man when he joins the Army is placed in a new environment and often develops symptoms of dyspepsia about the second fortnight, for which he reports sick. A parallel is the dyspepsia which often affects healthy persons when taking a holiday in another country. An experienced medical officer recognizes the condition, reassures the man and explains it to him and gives him a bottle of medicine. This last is essential as otherwise he would be branded as a malingerer which he is not and knows that he is not. He may report sick twice in the following fortnight, once in the next and then no more is heard of him. He has become acclimatized. But a medical officer not so experienced, or lacking self-confidence, may send the man to hospital for a specialist opinion. This is the first mistake. The medical specialist should return him at once to his unit, but he may make the further mistake of admitting him to hospital for investigation, which proves to be negative. In this group, unlike chronic gastritis, the symptoms, respond readily to hospital treatment and the man is sent back "cured" to the Training Centre. But although the symptoms have been removed the man has not been acclimatized and the cycle starts over again and he is then admitted to hospital within a short time for the same complaint will not subsequently get rid of the symptoms. His chance of making a useful soldier has been taken away and, further, he can claim that in the Army he developed chronic dyspepsia from which he had never suffered previously.

Table II. Gastric Cases seen by a Medical Specialist in One Week

1.	Peptic ulcers	11
2.	Admitted. Indefinite or severe cases	2
3.	Return to units: M&D	7
4.	Recommended for discharge for conditions other than gastric	2
	Total	**22**

Table II is an analysis of cases of dyspepsia sent to the medical specialist of a military hospital during one week from units and records his opinion and disposal of them. Seven men were sent back to duty, most of these being transient dyspepsia which should have been kept in the unit. The return of these cases and a note from the medical specialist instructs the medical officer that he should have dealt with them himself. Two cases only were admitted. The illustration here given is a satisfactory record. If the medical work is weak the figures will be disproportionately higher in Nos. 2 and 3. When dyspepsia in the Army is discussed it is often solely on the basis of cases seen in hospital wards which only gives a partial picture. The medical officer of a training centre, especially an experienced general practitioner, sees the complete picture more correctly.

Conclusion

Men with peptic ulcer should be invalided out of the Service without delay. The diagnosis may be justifiable on clinical grounds although radiographs are normal.

Efforts should be made to keep on duty men with chronic gastritis. If admitted to hospital they should be returned to the unit after investigations are concluded without waiting for complete relief of symptoms. Many of them make useful soldiers with no greater discomfort than affects than in civilian occupations. But if the attempt fails and a man has been repeatedly admitted to hospital, he should be invalided out of the

Army. Placing in a lower category is rarely effectual.

It is important that the symptoms in transient dyspepsia should not be converted into a permanent disability by injudicious handling.

A high proportion of the cases both of peptic ulcer and gastritis suffered from similar symptoms for a period of years before joining the Service and there is no evidence that the number of new cases developing in the Army is in excess of the number which would occur among an equal population in civilian life in the same time.

The incidence of peptic ulcer and gastritis in the civilian population is greater than has been realized and has increased rapidly in recently years. The establishment of a special hospital for the study of gastro-duodenal diseases is long overdue.

My thanks are due to medical specialists and others in many hospitals and especially to Lieutenant-Colonel Gibson Graham and Captain Kerr whose article I quoted from before publication with their permission, and to Major J. G. Scadding.

References

Jennings, Denys (1940) *Lancet* i, 444.

Graham J, Gibson, and Kerr, J.D. Olaf (1941), *Brit.* M. J., i, 473.

Payne, R.T., and Newman, C. (1940), *ibid.*, ii, 819.