Dr. L. Werbeloff; and Dr. M. Glass and Dr. J. N. Jacobson. Mr. J. A. Currie and Professor F. Forman gave permission for the intravenous studies. Expenses were partly defrayed from the C. L. Herman Research Fund. The Geigy Company Limited, Rhodes, Middleton, Manchester, kindly supplied the "sequestrol-lead complex NA2."

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PEPTIC ULCER IN GENERAL PRACTICE

BY

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Peptic ulcer is very common in our present generation. Its incidence has increased rapidly and is still increasing (Alsted, 1953). It is a disorder, or more probably a group of disorders, with many problems. The causes are uncertain, the course is unpredictable, and the results of treatment are far from satisfactory. In addition its importance arises from the high morbidity rate and not inconsiderable mortality. This morbidity, because it affects primarily the working man between 30 and 60, is of economic importance in respect of loss of work-time.

Much has been written on this subject over the years, and most of the reports and papers have been based on hospital figures. Accurate and numerous as these figures are, it is possible that they may not present a correct picture of the disease because they include only cases referred for a consultant's advice and help. The referral rates of ulcer patients to hospital depend on a number of factors for which due allowance must be made and which vary in different parts of the country. Thus, where general practitioners have full facilities for radiological and pathological investigations the referral rates will be lower than in the "closed diagnostic" areas. Again, there is a natural tendency for more severe cases to find their way to hospital, the milder forms of the disease remaining under the sole care of the family doctor. In addition the rate will depend on the general practitioner himself; some practitioners may feel that all cases of ulcer should be seen by a consultant, whilst others refer only those they consider may require surgical treatment.

It is probable, therefore, that, as in other chronic diseases, we in general practice may observe a more accurate, if smaller, picture of the disorder as a whole. Because we live in the midst of our patients we are able to keep a close check on the course of the illness, including loss of work-time, personal suffering, and the effects on the whole family group. Another of our advantages is that if we have adequate records available we can easily carry out a lengthy follow-up of our ulcer patients over many years and by this means try to elucidate more accurately the natural history of this group of conditions.

It has been felt, therefore, that some useful purpose may be served by noting the incidence, morbidity, and response to treatment of peptic ulcer in two general practices with almost 10,000 patients at risk.

Methods of Study

For the purposes of this work, records from two separate and adjacent practices in a South-east London residential suburb have been examined. These two practices are almost of identical size and pattern, and deal with the same type of population, of whom the majority belong to social classes II, III, and IV. Our patients' occupations are varied, but the majority are employed in clerical and industrial duties locally or in central London. There is no evidence of any real poverty or of any excess of prosperity.

The study is a retrospective one, and is based on records which have been kept in almost identical fashion over the period of the study. These records are able to show: (1) all the peptic ulcer cases in our practices; (2) all attendances over a period of two and a half years, and their purpose; and (3) periods of incapacity for work.

It is necessary to note our criteria for diagnosis of peptic ulcer. We have made the diagnosis only if there has been evidence of a positive radiological report plus a history of ulcer-dyspepsia. Most cases have been diagnosed by us personally, but in some we have relied on old medical reports, provided that these contained positive radiological records or confirmation at operation. We have tried to be particularly careful in excluding any doubtful cases.

Peptic ulcer is a chronic disorder, and a long period is necessary in order that an accurate picture may be obtained. We have therefore confined our main studies to cases which had been diagnosed five or more years previously, giving us a five-year-plus follow-up.

Incidence

To arrive at absolute figures is difficult, as one is bound to miss some cases of short duration and with minimal symptoms. It is possible that, relying as we have on strict criteria of diagnosis, our total incidence may be a little lower than is actually the case. Table I shows the incidence of peptic ulcer on July 1, 1954, and Table II that of cases with a history of five or more years.

TABLE I.—*Incidence of Peptic Ulcer on July 1, 1954*

	Male	Female	Total
Gastric ulcer	29	16	45 } 177
Duodenal ulcer	108	24	132 }

TABLE II.—*Incidence of Peptic Ulcer with a 5-Year-Plus History*

	Male	Female	Total
Gastric ulcer	23	8	31 } 124
Duodenal ulcer	79	14	93 }

There were 9,975 patients at risk on July 1, 1954, giving an incidence rate of 17.7 per 1,000. This compares with a London rate of 15.3 per 1,000 as reported by Stocks (1949). Doll *et al.* (1951), in a study of 6,000 London factory employees aged between 14 and 65, found an incidence of 56 per 1,000; our corresponding rate is 30 per 1,000.

Age at First Diagnosis

It is of little value to note simply the age incidence of these patients at the present time, for some have had a longer history than others. An attempt has therefore been made to ascertain the age at which the clinical diagnosis was first conclusively made. Table III shows this age at first diagnosis in all our peptic ulcer patients. This has

TABLE III.—*Age at First Diagnosis*

Age	Gastric Ulcer			Duodenal Ulcer		
	Male	Female	Total	Male	Female	Total
20–29 ..	1		1	21	2	23
30–39 ..	4	2	6	34	9	43
40–49 ..	8	5	13	35	7	42
50–59 ..	10	1	11	14	4	18
60–69 ..	5	7	12	3	2	5
70+ ..	1	1	2	1		1
Total ..	29	16	45	108	24	132

obvious fallacies. There is always a variable delay before a diagnosis is made. In addition the time factor was based on the first recorded evidence of a positive *x*-ray examination, and this did not always coincide with the date of the first symptom. The peak of onset of duodenal ulcer is between 30 and 50, whereas in gastric ulcer there is no definite peak but merely a relative frequency between 40 and 70.

Morbidity

Our main concern was to try to determine the extent and degree of disability which peptic ulcer causes in the community and as seen in general practice. To assess this we have attempted to estimate the morbidity of the disease in our 124 patients with a history of over five years. We chose a period of two and a half years, from January, 1952, to July, 1954, over which to study the morbidity rates. There were no deaths from peptic ulcer during this period.

It is rather difficult to record, with any degree of accuracy, the disability caused by peptic ulcer in terms of figures. In order that this may be attempted, however, it is necessary to define certain criteria and grades of disability. Having done this, we propose to examine the morbidity rates of peptic ulcer in the entire group, including both surgical and medical cases, and then take each sub-group separately.

In the case of a disorder such as peptic ulcer we have two criteria at our disposal for assessing morbidity—firstly, the attendance rates for each patient over any given period; and, secondly, the duration of any incapacity for work. Some further explanation and discussion of these criteria is necessary.

Medical Attendances.—It is essential to understand what a record of a person's medical attendances will signify. The patient may have different reasons for consulting his practitioner: he may do so to seek advice for disturbing symptoms, merely to obtain the repeat of a prescription even though he is symptom-free, to obtain a certificate for various reasons, or the purpose of his consultation may be for a routine follow-up, he being quite free of symptoms.

In this study we have tried to restrict the attendance rates to those consultations which were directly concerned with symptoms arising from the activity of the ulcer. Whilst it is reasonably safe to assume that all patients who came to consult us for digestive symptoms were suffering from the effects of their ulcers, it is certainly not true to assume the reverse—namely, that all those who did not come to see us were quite free from trouble. Some undoubtedly treated themselves. It is not possible to estimate this source of error with any accuracy, but it is probable that all those with severe symptoms will certainly have consulted us.

An attempt was made to grade disability on the number of attendances over the two-and-a-half-year period. Three grades were selected: those with no attendances; those with under 10 attendances; and those with 10 or more attendances. Ten was chosen as the critical number because it represents the average attendance rate for our practices over this period. We find that each patient on an average sees us four times a year. We believe that this grading is of some value in assessing morbidity, provided that its limitations are recognized.

Duration of Incapacity for Work.—This information gives an important index of the severity of the condition. It is again necessary to point out its limitations. It is easy to estimate this figure in men and women who require certification for work. Housewives and retired persons will not, of course, require such certification. We attempted to correct for this by assessing the disability in these latter two groups. If we thought that a similar degree of disability in an insured person would have led to loss of work-time, then we noted this in the non-insured group. Symptoms necessitating a visit to the patient at his home indicated that the condition was severe enough to warrant time away from work. This group of patients who were "off work" includes all those who underwent surgical as well as medical treatment, and this somewhat swells the numbers.

Results of Different Forms of Treatment

It is now possible to examine the results from different forms of management as expressed in terms of morbidity.

Many different types of therapy are available for the treatment of peptic ulcer, but none of these is entirely satisfactory on its own, and the best results are obtained by careful selection of cases and by treating each one on its merits. The advantages and risks of each method should be well recognized. In our practices we have relied primarily on medical therapy as the first line of treatment, and cases were selected for surgery when this had failed.

The results of our management of peptic ulcer patients are best expressed and studied in three sections: (1) the group of 124 with five or more years' history, including both surgical and medical cases; (2) the surgically treated; and (3) those treated by medical methods only.

Combined Therapy

This group contains cases of peptic ulcer of five or more years' duration whatever their method of treatment. There were 31 who received surgical treatment and 93 who were treated medically.

Table IV shows the results which were obtained. These can be seen to be quite satisfactory. Of these patients, 37% had not attended on account of their peptic ulcer, and 77% had less than the average number of attendances during the period in question; 70% had lost no time away from work.

TABLE IV.—*Results from Combined Therapy*

	Gastric Ulcer			Duodenal Ulcer			Total
	Male	Female	Total	Male	Female	Total	
No. of attendances:							
0	8	2	10	31	5	36	46
1–9	10	3	13	30	5	35	48
10+	5	3	8	18	4	22	30
Days of incapacity:							
0	16	7	23	55	8	63	86
1–13	1	—	1	1	1	2	3
14–27	2	—	2	8	2	10	12
28–84	1	—	1	9	1	10	11
85+	3	1	4	6	2	8	12

It can also be seen, from these admittedly small numbers, that there is no appreciable difference in the results of gastric and duodenal ulcers.

Surgical Treatment

Our indications for advising surgery have been failure of adequate and repeated medical treatment and the occurrence of the well-recognized complications of the condition. Translated into more personal terms, this means repeated periods of incapacity for work, with the inevitable common consequences, and symptoms interfering with the patient's enjoyment of life. Occasionally there was incompatibility between the nature of the patient's employment and his

TABLE V.—*Types of Treatment Given*

	Surgical			Medical			Total
	Male	Female	Total	Male	Female	Total	
Duodenal ulcer ..	20	7	27	57	9	66	93
Gastric ulcer ..	3	1	4	22	5	27	31

ability to follow a suitable dietary regime. The site of the ulcer was another factor that influenced our recommendations, as we referred gastric ulcers the more readily to the surgeon.

The type of surgical treatment carried out was gastrectomy in 27 cases and a gastro-jejunostomy in 4. The results have been excellent. In only three instances has there been any persistent post-operative morbidity, and in only these three has there been any loss of work-time. Twenty-four of these patients have required no medical attendance for digestive symptoms afterwards. There were no deaths in this series.

Medical Treatment

"Medical treatment" is the term loosely applied to the many types of non-surgical measures employed in the management of peptic ulcer. Before we discuss the results of this form of therapy it is necessary to clarify the interpretation we placed upon it.

Since the days of Hurst and Sippy there has been a considerable slackening in the zeal with which their regimes have been applied. Some believe that medical therapy has little, if any, influence on the natural course of peptic ulcer (Martin and Lewis, 1949). Whether or not the ultimate course is influenced, it is quite definite that certain measures will relieve the symptoms for which we are consulted. We in our general practices have perforce had to rely on simple and practical remedies, and we have adopted the following measures: rest in bed in the acute stages, depending on the severity of the symptoms; diet, including frequent meals and avoidance of any known aggravating articles of food; alkalis, taken when necessary, to control pain. Sedatives were often useful in helping the tense patients to cope more easily with their situations. The results of this approach are shown in Table VI.

TABLE VI.—*Results from Medical Treatment*

	Gastric Ulcer			Duodenal Ulcer			Total
	Male	Female	Total	Male	Female	Total	
No. of attendances:							
0	7	1	8	17	2	19	27
1–9	9	3	12	24	3	27	39
10+	4	3	7	16	4	20	27
Days of incapacity:							
0	13	6	19	40	3	43	62
1–13	1	—	1	1	1	2	3
14–27	2	—	2	8	2	10	12
28–84	1	—	1	2	1	3	4
85+	3	1	4	6	2	8	12

These medically treated cases, all of which had a history of five or more years, show surprisingly good results. In 30% no medical attention was required during the two and a half years. We have already pointed out that a "nil attendance" record cannot be taken to be synonymous with complete freedom from symptoms, but it is certainly suggestive of the absence of severe symptoms. In 70% the attendances were fewer than the average number of times for the whole practice. Their symptoms may therefore be regarded as slight, assuming that a low attendance rate is equivalent to a mild degree of disability. No time was lost from work during this period by 66% of those medically treated. These figures are even better than is at first apparent, for many of the 12 patients who were incapacitated for over three months were also suffering from other illnesses such as tuberculosis, coronary artery disease, chronic bronchitis, arthritis, and neurosis. In these cases it was not necessarily the ulcer which was the prime cause of their incapacity.

Complications

In this series of five-year-plus cases the incidence of past haemorrhage and of perforation were as shown in Table VII, giving an incidence of bleeding in 18% and perforation in 10% of cases. This compares with Martin and Lewis's (1949) figures of 32% and 25% respectively. Ryle (1948) quoted figures of 10% and 5%, and Baker (1947) reported an incidence of haemorrhage in 20% of his series.

During this same period it is interesting to note that we had five cases of severe, and often repeated, haematemesis in which no radiological evidence of ulcer was noted.

TABLE VII.—*Incidence of Haemorrhage and Perforation*

	Gastric Ulcer			Duodenal Ulcer			Total
	Male	Female	Total	Male	Female	Total	
Haemorrhage ..	4	2	6	14	2	16	22
Perforation ..	2	—	2	11	—	11	13

Other Illnesses

Examination of the records of our ulcer patients has not revealed any marked tendency to other diseases, with the exception of psychoneurosis.

Of the total number of all our ulcer patients (177), 17 were relatively high-grade neurotics, of whom many have had lengthy periods of treatment from psychiatrists. These neurotic traits have persisted in those who have had their ulcers cured by surgical measures. It is of interest to note that these "neurosis rates" were different in the two forms of ulcer, being 7% for gastric ulcer and 16% for duodenal ulcer.

Discussion

This follow-up of general practice material is presented in the full knowledge of its limitations. The numbers are relatively small. We have 124 peptic ulcer patients with a history of five or more years' duration, and 177 at the time of writing, giving an incidence at present of 17.7 per 1,000. The difficulties of arriving at a satisfactory method of assessing morbidity have already been noted. We feel that our estimations of the number of medical attendances and duration of the incapacity from work do in fact give a reasonable picture. In favour of using general practice figures is the fact that we are able to know more of our patients and their disabilities and are thus able to assess their morbidity more accurately, and we can also obtain a longer and closer follow-up.

In this paper we are seeking to note the results of treatment in our five-year-plus cases and to observe their natural course.

In the past it has been customary to present the results of ulcer therapy separately under medical and surgical subdivisions. Undoubtedly the best results are obtained by a combination of the two methods together.

Our results have been quite good: 37% required no medical attendance over the two-and-a-half-year period, 77% attended on less than the average number of occasions, and 70% did not lose any time from work.

Surgical treatment was carried out in 31 patients out of the 124 (25%), and the results were very good. The remaining 75% who were treated "medically" are of special interest. Some workers (Martin and Lewis, 1949) have doubted the value of medical therapy in peptic ulcer and questioned whether its results are merely what one would expect from the natural course of the disease. In this series, based upon simple measures of treatment, we found that 30% required no medical attendance in the period under study, 70% attended on less than the average number of times, and 66% lost no time from work. We feel these results are satisfactory.

Results of other observers on the expectations of medical therapy are somewhat similar to those that we arrived at—if "no medical attendances," of which there were 30%, are taken to be equivalent to "inactivity." Thus, Martin and Lewis (1949), in their follow-up, found that 44% of gastric ulcers and 32% of duodenal ulcers were inactive after 5–10 years; Malmros and Hiertonn (1949) found rates of 36% and 29% after 7–10 years; Natvig *et al.* (1943) quote corresponding figures of 44% and 34% after three years, which

on re-examination by Qvigstad and Römcke (1946) became 22% and 10% after a further five years. Ogilvie (1952), in comparing the results of surgical and medical treatment of 660 cases, found 34% satisfactory after medical treatment and 70% satisfactory after surgical treatment after 5–10 years.

Figures around 30% seem to be the expected "satisfactory" proportion to be attained after medical treatment. It is essential, however, to be clear what the term "satisfactory" implies. We restricted it to patients who sought no medical advice over two and a half years, but we found that many others could be classed as "satisfactory," as they lost no time from work and had few symptoms. It is significant that in only 25% of cases was surgical treatment necessary. On the whole we feel that medical treatment can keep the patient in a comfortable state in the remaining 75% of cases.

Conclusion

To conclude, it is felt that the time has come to make more use of the field of general practice as a source of information on the natural history and morbidity of certain common diseases such as peptic ulcer, hypertension, rheumatism, and the acute and chronic infections of the chest. These conditions are often followed for only short periods in hospital practice; but in general practice they can be surveyed from the time of diagnosis until death, if necessary. It is to general practice that we should turn for further advances in the study of the true natural history of such disorders.

The methods that need be used are very simple—based essentially on adequate records over a long period.

In presenting these findings from our two practices, even though they cover some 10,000 patients, we fully realize their limitations when an attempt is made to apply them to the country as a whole. Nevertheless, accepting these limitations, it is felt that they indicate the probable trend of the natural history of peptic ulcer.

Summary

A report is given on the incidence, morbidity, and course of peptic ulcer in two South-east London practices with a total of some 10,000 patients at risk.

On July 1, 1954, there were 177 peptic ulcer cases (G.U. 45 and D.U. 132), 124 of them having a history of five or more years' duration (G.U. 31 and D.U. 93). The latter group has been reviewed for the purposes of a five-year follow-up.

For the purposes of assessing morbidity the numbers of medical attendances and the duration of incapacity from work (or its equivalent) were recorded and compared in the various forms of treatment.

In the whole series, including both surgical and medical cases, 37% of patients required no medical attention for digestive symptoms in the two-and-a-half-year period under study, 77% attended on less than the average number of occasions, and 70% did not lose any time away from work.

Surgical treatment with good results was given to 25% of the patients.

Of the remaining medically treated patients (75%), 30% needed no medical attention, a further 40% attended on less than the average number of occasions, and 66% lost no time from work. These results represent a not unsatisfactory economic and personal control of the condition. The results were similar in both gastric and duodenal ulcers.

The course of the disease was complicated by haemorrhage in 18% and by perforation in 10% of cases.

There was no obvious prevalence of any other associated disease with the exception of neurosis. A fairly severe psychoneurotic state was present in 16% of duodenal ulcer and in 7% of gastric ulcer patients.

The scope for studying the natural course of certain chronic illnesses in general practice is noted.

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GASTRO-INTESTINAL ULCERATION AND NON-ULCERATIVE DYSPEPSIA IN AN URBAN GENERAL PRACTICE

BY

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One of the reasons for our inadequate knowledge of the aetiology of peptic ulcer lies in the difficulty of assessing its true prevalence in a population. Most of the literature on peptic ulcer is based on hospital and post-mortem statistics. The latter give little guide to incidence in this type of chronic disease; and hospital figures reveal only part of the picture, since most uncomplicated cases are treated at home. In general, all cases of peptic ulcer, whether treated in hospital or at home, are seen at the beginning and during the subsequent course of their illness by the family doctor. The general practitioner is therefore in a special position to collect information not only on the prevalence but perhaps also on the natural history and management of the disease.

Method

In this paper the incidence of gastro-intestinal ulceration in an urban general practice over a period of twenty years is analysed; also, its present prevalence is compared with that of non-ulcerative dyspepsias. Duplicate records were kept of all ulcer and dyspepsia cases, and data relating to the clinical and social aspects of the patient's history were transferred to hand-punch cards for analysis.

The diagnosis of cases was especially facilitated by the use of a simple test for occult blood, by means of which all cases with symptoms suggestive of alimentary origin are regularly screened in the practice. An unselected series of 100 patients attending for non-alimentary conditions was tested so that an estimate could be made of the incidence of occult blood in the general practice population.

The simple screening test for occult blood used in the practice* is the Gregersen slide test (G.S.T.), first

*"The practice" refers to the practice in which the material of this paper was collected by the two doctors in partnership (Dr. S. Lipetz and Dr. J. Lipetz).