DIAGNOSTIC PROBLEMS IN GENERAL PRACTICE

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THE idea of this study originated from the establishment of a diagnostic centre in Edinburgh in 1959. Aware that various aspects of general practice are increasingly the subject of discussion and argument but less frequently critically examined, we decided to study the records of 200 patients that one of us, a general practitioner, had examined at the Family Doctor Centre in Edinburgh. These examinations involved considerable clinical work and were fully recorded at the time. The object of the study was to identify the problems that the patients presented and to assess the advantages, if any, to both doctor and patient in utilizing the facilities of a diagnostic centre.

The Family Doctor Centre provided a comprehensive range of diagnostic facilities under one roof; there were well-equipped consulting rooms available, on the assumption that the general practitioners would personally attend and examine their patients, and there was also nursing, medicosocial and secretarial help in the centre. The way in which these facilities were used varied with individual doctors. The procedure of the doctor undertaking this study was to spend something over an hour with each patient, taking a full history and making a comprehensive physical examination; investigations included blood count and urinalysis, and at the same session, where indicated, radiography, cardiography and taking of samples for cytology, biochemical and bacteriological studies. The consultants' reports on all these, and where relevant, the medical social worker's assessment, were usually available within 48 hours.

The doctor had investigated 256 patients for the first time at the centre between June 1959 and March 1963. Of these 56 had not been on the practice list for a sufficient length of time to be included in the study (death, removal, or temporary residence). The records of the remaining 200 were studied to determine the following points:

(1) The total number of consultations in the 12-month period before and after the centre examinations excluding immunizations, vaccinations, and

routine antenatal examinations
(2) The presenting problems and subsequent diagnoses
(3) The numbers requiring immediate hospital referral
(4) The long-term effects of the investigation.

When discussing allocation of time in *Good general practice*, Taylor divides patients broadly into 'quickies', progress cases, and short, intermediate or long, new cases. When the Diagnostic Centre opened in Edinburgh, the doctor found it practicable to do one or two long cases, by Taylor's definition, each week. The tendency developed to select for this slower and more thorough screening those patients for whom, after one or many surgery consultations, he found himself uncertain what to do next.

In trying to decide, retrospectively, why these particular patients had been examined at the centre, it was necessary to isolate the things about them that made them more than ordinarily perplexing to the doctor. In doing this it was found that the groups into which they most naturally fell were not mutually exclusive and sometimes not truly comparable. A number of problems were found to be common to all groups. In each individual patient it was a combination of factors that appeared as a problem to the general practitioner and stimulated him to take further action; the group headings (reasons for selection) are an attempt to describe the most important factor in each case (*see* table).

Reasons for selection

1. *Patients presenting with specific symptoms*

Many patients consult the general practitioner about a specific complaint. With most of these a short history and limited examination are sufficient to arrive at a firm diagnosis. When, however, the doctor could only make a provisional diagnosis and further investigation was necessary, he found that he could do this himself at the centre with the minimum of delay. The records show that 79 of the 200 patients came into this category making this by far the largest group for both sexes, 63 women and 16 of the 27 men. In this group, 37 had very low and 27 had low consultation rates, so that it seems that the fact of relatively infrequent recent contact, as well as the nature of the complaint, was a reason for the doctor's action.

Within this group, the symptoms most frequently produced related to the gastro-intestinal tract; almost a third of the patients complained of dyspepsia (19 women and six men). Over a quarter complained of pain in the chest and/or breathlessness, suggestive of possible cardiovascular disease. Among the women, gynaecological complaints were the third most frequently mentioned. Of the

TABLE

PATIENTS BY SEX AND REASON FOR SELECTION

Reason for selection	*Males*	*Females*	*Total*
1. Patients presenting with specific symptoms	16	63	79
2. Patients presenting with multiple and vague symptoms	2	36	38
3. Patients presenting with emotional symptoms	2	32	34
4. Patients requiring re-assessment of known disease	2	17	19
5. Patients who appeared to make excessive demand for care	—	5	5
6. Patients who had made only partial recovery from illness	2	9	11
7. Patients requiring assessment for social help	3	4	7
8. Others	—	7	7
	27	173	200

remaining 21 patients, five presented with a respiratory complaint and the others a wide range of specific symptoms.

The average patient's difficulty in precise description and location of pain forced the general practitioner to consider gastro-intestinal and circulatory disease as the differential diagnosis in 46 patients. Looking at the presenting symptoms, final diagnosis, and subsequent management, a picture emerges of a number of patients whose symptoms could indicate the presence of serious pathology that might well require referral to hospital. In the majority of cases, the general practitioner found that such pathology could be excluded by his further investigation. At the same time he was able to confirm the existence of less serious conditions within his competence to treat. This screening process threw up ten patients who required referral to hospital including two silent myocardial infarctions, and one unsuspected carcinoma of cervix in a woman of 51 who had complained of chest pain and breathlessness and had been investigated for this reason.

In the whole group of 79 patients, 22 were referred to hospital. Eleven were women requiring gynaecological treatment, only six of whom had actually presented with gynaecological complaints; in the other five, the condition was found on pelvic examination undertaken routinely.

2. *Patients presenting with multiple and vague symptoms*

Patients who present in the surgery with multiple symptoms, often

vague and unrelated, make even a provisional diagnosis difficult: 38 patients in the study came into this category. The doctor's problem was in knowing where to begin. They were not, on the whole, patients who attended frequently, so that there was less pattern of illness to help the general practitioner to evaluate the importance of the symptoms.

In this group the conflicting evidence of the patient's complaints made it difficult to get a clear history at the first interview. The patient impressed the doctor as being ill, but at that stage he was unable to judge the relative importance of the many symptoms. A range of conditions from depression to endocrine disorder sprang to mind and made him aware of the need to take time to relate the history to the symptoms, and to undertake some basic investigations himself. Referral to hospital might well follow—over one third in this group required this—but some clarification was needed first, if the general practitioner was to make the best use of specialist help. He considered it as much a misuse of consultant's time and a disservice to the patient to send a mild thyrotoxic to a psychiatrist as to send an early depression to a general physician.

From the records of the group of 38 patients only four with serious disease came to light, one case of pulmonary tuberculosis, an ovarian tumour, and two patients with endogenous depression. Only two of these had been very low attenders but it was the likelihood of finding something seriously wrong in any one of the 38 patients, that had influenced the doctor's decision to make a full clinical examination.

A further nine patients were referred to hospital with various subacute conditions typified by the following case.

An obese woman of 45 with a stormy marital history, presented as on many previous occasions, with symptoms of dyspepsia, headaches and flushings; she looked pale, depressed and very unwell. A thorough investigation revealed a hiatus hernia, and to the doctor's and patient's surprise, early pregnancy.

Of the 25 patients who did not require referral to hospital, 16 exhibited signs of psychosocial disorder of moderate severity, for whom the general practitioner felt he could do something himself. Ten of these he had referred to the social worker for diagnostic assessment.

3. *Patients presenting with primarily emotional symptoms*

Another group of 34 patients was characterized by their explicitly nervous or emotional complaints. The doctor suspected that the diagnosis might be a psychiatric one but was wary of reaching this conclusion on inadequate grounds. He had previously found it tempting to label this type of patient as neurotic, and to dispense a few words of reassurance and a number of pills, on the assumption

that some would improve spontaneously, while deterioration in others would at least be diagnostically revealing.

In attempting a more positive approach in this group, the doctor needed more time than was available in the surgery. He wanted to make a full clinical examination and also a detailed assessment of the patient, irrespective of the frequency of previous contacts. The consultation rates in the group indicate that the doctor was beginning to realize that his knowledge and understanding of people did not necessarily increase proportionately with the number of times he saw them. Twelve patients in this group had had ten or more consultations in the previous year with an average of over 16 each.

The group consisted of 32 women and two men. Physical illness was found in only four women, complicated by a degree of anxiety. Three women and one man were thought to be severely disturbed and requiring psychiatric help. The remaining 26 had a variety of labels all indicating psychological unease, but with no indication of the extent of this. In spite of this lack of clear thinking the general practitioner learned more about these patients and found it possible to help some of them, particularly those in whom he began to appreciate their social and relationship problems as a realistic basis for their emotional symptoms. In this exploration he was helped by referral to the social worker for her assessment of the patient and the situation. For the doctor, the subsequent discussions contributed to the whole educative process; he gained a new appreciation of factors hitherto ignored or ill-assessed. He learned to become more aware of his own reactions and of his need to ask the patient less and to listen more.

Of the 26 patients somewhat imprecisely labelled, a few showed transitory disturbance which proved to be directly related to social stress. Three developed into formal psychiatric illness not so diagnosed by the general practitioner at the time. The majority could be described as having episodes of disturbance in anxious personalities, and after some considerable passage of time, the general practitioner has no reason to revise this definition.

4. *Patients requiring re-assessment of known disease*

A detailed re-assessment seemed necessary for a number of patients who were known to be suffering from chronic conditions, and who presented themselves at the surgery with new symptoms of recent origin. The problem was to discover whether these represented a significant deterioration in their condition or the onset of a new disorder.

As an example, a hypertensive patient who complained of subacute

chest pains of two weeks duration, might well have had a small myocardial infarction or be exhibiting symptoms of a hiatus hernia. Examination at the centre without delay meant that the primary question of the necessity for immediate hospital care, could be quickly settled. The general practitioner was at least able to get his priorities right, without necessarily making a precise diagnosis. The doctor's anxiety was thereby reduced; uncertainty can be just as undermining for the doctor as the patient. For these patients, diagnostic effort by their own doctor may be a less traumatic experience than a visit to hospital. Such effort also enables the general practitioner to refer to hospital those for whom it is essential. Hypertensives figure largely in general practice; some, but by no means all need specialist care, and it is important to identify those who need it.

Of the 19 patients in this group, ten were known hypertensives, all of whom presented symptoms that raised the possibility of myocardial infarction or hiatus hernia, although neither diagnosis was confirmed in any of them. Only one required hospital referral, for an exacerbation of a gynaecological condition. The remaining seven patients were known to be suffering from various conditions among which were myxoedema, hiatus hernia and bronchitis.

Two women were found to have peptic ulceration co-existing with cardiovascular disease in the one, and myxoedema in the other case. The remaining 15 women and two men had no serious complications but in three women unsuspected iron deficiency was found to be present.

5. *Patients who appeared to make excessive demand for care*

Complaints by general practitioners that some patients call upon them to an unjustifiable extent appear in almost every periodical. In this study, the doctor had felt sure that there were many patients whose demand for medical care was excessive, and had anticipated that the number would warrant consideration as a group. In fact only five women were found to come within this category, but because so few created an image of so many in the doctor's mind, it seemed important to look more closely at this group.

The five women in this group, between them, accounted for 120 consultations in the preceding year. There was, however, a total of 23 women in the whole study who were high users (15 or more contacts); these included some who had consulted over 24 times each, yet were not felt to be making excessive demands. It seemed to be high consultation rates without obvious justification that constituted a burden for the doctor. A thorough investigation of the five was an attempt to go a stage further back and to understand what these patients were demanding. This kind of diagnostic process seemed

more possible in a setting away from surgery and home, where both doctors' and patients' way of responding to each other had settled into a series of conditioned reflexes. The fact of making an appointment with the patient and setting aside an uninterrupted hour was a first important step toward modifying this behaviour. An opportunity to enlarge on many and various complaints was the last thing that this type of person had learned to expect from the general practitioner. If he had hitherto listened to the patient at any length, it was usually because he had been manoeuvred into a position in which he had no alternative. His capacity to listen sensitively and intelligently tended to be in inverse proportion to his feelings of exasperation and helplessness.

Common to the five was a poor doctor-patient relationship, and much referral to hospital in the past, the latter probably an attempt by the general practitioner to reduce the pressure on himself. Frequently, this resulted in a double failure in the lack of relief for the doctor and the patient's feeling of rejection by the general practitioner and by the specialist, summed up in a consultant's letter . . . "I have asked this patient to remain under your care and hope that you will not find it necessary to send her back".

The investigations of these patients constituted an attempt to understand the patient's behaviour as much as the clinical symptoms, and to take a close look at the reactions they engendered in the general practitioner. It was realized that each patient had grossly unsatisfied dependency needs, and each in her way was trying to use the doctor to meet these. The doctor's unwillingness to accept and tolerate this situation had produced a vicious circle of increasing demands, and of mounting annoyance and rejection by the doctor. He felt constantly threatened and uneasily aware of the possibility of missing something of significance in a patient whose symptoms he had become conditioned to belittle.

A long diagnostic look incorporating a full history and comprehensive physical examination was a practical demonstration to these patients that the doctor could modify his previously rejecting attitude. It could be a reassurance to the general practitioner that there was no serious condition underlying the apparently trivial complaints.

No dramatic improvement resulted, but the general practitioner found that once he began to understand and tolerate the patient's demands, he no longer felt threatened and could begin to respond helpfully. The number of consultations remained substantially the same, reduced by only three to 117 in the succeeding year.

Other reasons for selection

The need to investigate the reason for delayed recovery from minor

illness was the general practitioner's problem in 11 patients. Pulmonary tuberculosis, severe anaemia and anxiety state were diagnosed in three of these. In seven patients the doctor suspected that social needs might be complicating the clinical situation, and utilized the centre for a combined medical and social assessment. Six other patients presented individual problems, including refusal to attend hospital outpatient departments. Another patient had been twice referred to a physician because of persistent lower chest pain. On both occasions he diagnosed a probable pleurisy (chest x-ray normal) and advised local heat. The general practitioner then investigated her at the centre and found a large renal calculus.

Failures

In using the centre regularly, the general practitioner had assumed that this diagnostic method contributed to better medical care. To test this assumption it was necessary to identify any patients for whom the outcome seemed to have been unsuccessful. On this basis 30 women and three men were reckoned as failures.

It appeared that there could be failure in various respects, misdiagnosis, inadequate diagnosis or breakdown in the relationship with the patient and invariably, therefore, in management. Six patients now seem to have been wrongly diagnosed; three of these were 'missed depressions'. They presented with emotional symptoms and all were originally diagnosed as having anxiety states or a functional disorder related to specific social stress. The doctor made an inadequate diagnosis in a few cases having assumed that certain demonstrable clinical signs accounted for all the symptoms. Later developments drew attention to co-existent lesions which he should have discovered at the original investigation. The facts in this minority emphasize the very real danger to the patient when the general practitioner goes further than usual in the diagnostic process and then misinterprets his findings. For example, a man with a short history of episodic upper abdominal pain was shown to have a duodenal ulcer; a few weeks later he obstructed from carcinoma of the transverse colon.

The largest area of failure lay in the field of relationship, contact and management, demonstrating the doctor's lack of skill in making use of his deeper understanding of the patient's situation and his inability to develop the relationship. Clearly the doctor's technical ability and increased knowledge are rendered comparatively ineffective where the relationship is poor.

Comment

The study was an attempt to evaluate retrospectively the usefulness of a diagnostic centre to a general practitioner in resolving the problems with which his patients confronted him. With increasing

enthusiasm he had used the total facilities offered, basing this enthusiasm on a number of assumptions. The doctor had assumed that the bulk of his diagnostic problems were found among high attenders and over-demanding patients, and that the extra time and effort expended on them was justified by a subsequent reduction in consultations. He believed it enabled him to give improved quality of care, including more appropriate hospital referral and gave him a better understanding of the doctor-patient relationship. He also felt that it offered a means of differentiating between physical and psychiatric illness.

The facts that emerged from the study show a different picture of the doctor at work. Contrary to the doctor's impression, 70 per cent of the patients had low or very low attendance rates in the previous year. The imaginary horde of over-demanding patients proved to be no more than five, although 26 patients had been very high users. High attendance rates *per se* did not trouble the doctor unduly provided that he felt there was clinical justification, and that he was in control of the situation. The small number of patients who figure so disproportionately in the doctor's mind appear to be those in whom the clinical picture is obscured by a deteriorating relationship.

The actual total of consultations in the subsequent year increased by well over a third, and there was an increase of 29 in the number of high users. These figures cannot be regarded as significant without knowing how far the second period consultations were related to the diagnostic investigations and how many constituted new episodes of illness. If, however, a consultation lasted the minimum of five minutes the doctor was faced with an additional 50 hours work for these patients. It is hard to reconcile this fact with his impression of reduced work in this connection unless there was some improvement in the quality of the consultation providing him with a new satisfaction. This impression was particularly strong in considering the small group of demanding patients, in whom he had begun to appreciate that their symptoms and manoeuvres could be quite as interesting to study as any clinical syndrome. In accepting the patients' demands as part of their pathology, his professional interest was quickened with a consequent lessening of the burden of consultations.

The number of cases considered to be 'failures' is disquietingly large (33 out of 200), but having discovered, somewhat to his surprise, that the extra effort achieved apparently nothing for one sixth of the patients, there remained a substantial number of the 200 for whom the general practitioner could assume that he had given a more adequate service. He had been able to extend his sphere of competence given basic, not highly specialized, diagnostic

tools, and to diffentiate more clearly between those patients for whom hospital care was appropriate and those whom he could and should treat himself. Where hospital referral was necessary, the general practitioner had been able to do this with greater precision, using consultants for clinically complex situations rather than routine screening, and in so doing reduced the risk of the patient being passed from one hospital department to another.

In general practice the doctor is under constant pressure from the patient to upset the classic order of diagnosis before treatment. He tends to compromise, and much of the time attempts to do both at once with more or less success. In the instances where he cannot do this because diagnostically unsure, as with the 200 patients in the study, removing the patient and his illness from the surgery and making a comprehensive investigation in a new setting, has certain advantages. Conscious effort to find time, and to take trouble is made by the general practitioner, and is seen to be made, by the patient. For this reason there seems to be some therapeutic value in the exercise, and in this sense the general practitioner begins non-specific treatment concurrently with the investigations. It reduces the patient's demands for immediate specific treatment and creates an atmosphere in which the doctor has time to consider the full implications of the findings. That he was learning to accept the frequent co-existence of physical and emotional illness instead of straining after the exclusion of the one or the other was shown in the high proportion of multiple diagnoses recorded in the study group, and the number of secondary diagnoses with a psychosocial component. The study also showed that having arrived at a more comprehensive diagnosis the general practitioner was not invariably better able to treat what he found.

Among the 200 patients the doctor found himself doing some preventive medicine in screening some higher risk patients for co-existent but symptomless pathology. For example, pelvic examination including cervical smear was offered routinely to almost all female patients irrespective of their complaint. In more general terms, the whole process could be described as a watching out for such diverse conditions as tubercle, diabetes, depression or malignancy, in their early stages.

The use of a diagnostic centre as an accepted procedure in selected cases was not without its effect on the doctor. It was shown to increase his work-load; this was offset by an increased satisfaction. By the regular discipline of the procedure itself, the doctor improved his technical skill and widened his experience. These positive gains are difficult to prove factually other than by reference to the extent to which he chose to use the diagnostic 'tools' available at the centre, whether actual equipment, facilities or personnel, all of which the

general practitioner learned to use more knowledgeably and appropriately. If for the purpose of the argument, the social worker is regarded as a diagnostic aid, in such a setting, she was used less frequently than radiography or haematology; even so, she was used in 85 of the 200 cases. It was a new concept for the doctor to use and work with a social worker, not as a person to whom patients were referred in the hope of seeing less of them thereafter, but as a colleague whose assessment contributed to the total diagnosis, and whose understanding of the implications of illness to the individual, could help the general practitioner both in his subsequent management of the patient, and of the doctor-patient relationship.

There is as much need to examine what goes on, and the successes and failures, in general practice as in more specialized fields. In spite of the difficulty of measurement, the critical examination of facts and feelings involved in the diagnostic process stimulates further thought and study, which can add a new dimension to a general practitioner's work.

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Body height and imipramine side effects. A. M. W. PORTER, M.D. *Brit. med. J.* 1968. **2**, 406.

Thirty female patients in a general practice being treated for depression with imipramine, were assessed for a number of variables of physique and were divided into two groups—those who complained spontaneously of side effects and those who did not. The only significant difference between the two groups was that the women complaining of side effects were taller than those who did not. Though with this small series chance cannot be excluded, it is possible that the rate of metabolism of imipramine and body height are both influenced by the same genes.