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Clinical Topics

Community care service for diabetics in the Poole area

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Summary

Because of an increasing work load at the hospital diabetic clinic in Poole general practitioners were asked to help in a community care service for diabetics. In this, general practitioners typically care for non-ketotic patients with maturity onset diabetes who are well controlled on diet or diet and oral hypoglycaemic agents, while the clinic concentrates on more difficult cases and screens patients for long-term complications. The hospital laboratory's work load has been eased because patients may attend for two-hour interval blood sugar estimations when they like; most patients appreciate this flexibility and prefer being looked after by their own doctor. The service has not increased the general practitioners' work load unduly, but it has heightened their awareness of diabetes in the community, thus allowing the diabetic consultant to deal with the problems for which he has been trained. The service has thus provided improved care for all diabetics in the Poole area.

Introduction

Historically diabetics have been managed in hospital diabetic clinics, where a wealth of experience has accumulated, while family practitioners have been denied this experience of managing diabetes. Unfortunately this desire by hospital doctors to look after interesting patients has now backfired. With a growing population in the Poole area and an age structure biased towards the elderly the number of diabetics has risen. Because of the overcrowding at the district general hospital's diabetic clinic the aims of treatment were being increasingly frustrated. To overcome this problem we asked general practitioners to share the diabetic work load with the clinic.

Formation of the service

Over 12 months in 1970-1 the population attending the diabetic clinic was surveyed. The patient's name, date of birth, sex, hospital

number, and family practitioner were recorded. At the end of the year we supplied each family practitioner with a list of patients under his care who were attending the diabetic clinic and invited him to meet hospital staff to discuss the care of diabetics and to hear proposals about their future care. Altogether 97% of patients attending the diabetic clinic were represented by either their own family practitioner or his partner. Over 90 family practitioners attended.

The problems facing the diabetic clinic were explained and the alternative solutions discussed, and it was eventually agreed to form a community care service for diabetics. A small informal working party was set up to organise the service.

In the next year a refresher course in diabetes was arranged for family practitioners and in the following year a weekend symposium was arranged. This was designed to give the educational basis on which to build experience in the care of diabetes. Talks were also given to community nurses, health visitors, practice secretaries, and medical social workers, so that they would understand how the service should work and promote its smooth running.

In 1972 the community care service for diabetics in the Poole area became operative.

Operation of the service

The service includes the hospital diabetic clinic, the hospital laboratory service, family practitioners, and all aspects of the social services. The postgraduate centre and the local branch of the British Diabetic Association provide forums for education and discussion.

THE FAMILY PRACTITIONER

The family practitioner (a) detects new diabetics, either newly diagnosed or new to the area, and refers them to the diabetic clinic for assessment and registration; (b) follows up selected known diabetics by assessing their symptoms, urine test results, weight, and two-hour interval blood sugar concentrations; (c) looks for evidence of neuropathy, retinopathy, peripheral vascular disease, and disease of the feet; (d) organises follow-up and care in the home by health visitors and community nurses; and (e) refers patients developing problems to the diabetic clinic for a medical opinion, treatment by the chiropodist, help from the dietitian, or help from the health visitor attached to the clinic.

Patients cared for by the family practitioner are typically non-ketotic with maturity onset diabetes. They are usually well controlled on diet alone or diet and an oral hypoglycaemic agent. They do not have retinopathy, significant neuropathy, or significant peripheral vascular disease. When they are returned to the family practitioner for follow-up they are free from ulceration of the foot. Nevertheless, those developing foot ulceration are now managed largely by a community nurse and their family practitioner. They are occasionally referred back to the clinic for general assessment if the doctor thinks it necessary. A few maturity onset diabetics are not ideally controlled, but it is considered that no better control can be achieved.

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A few insulin-requiring diabetics are also managed in general practice. They are usually excellently controlled and free from long-term complications. They are usually responsible patients who can be relied on to return to their doctors or to the diabetic clinic should any problem arise.

DIABETIC CLINIC

Diabetics are referred to the clinic by the family practitioner for clinical and biochemical assessment, the start of treatment, and education. After stabilisation selected patients are returned to their family practitioner for routine follow-up. The remainder are seen regularly to assess their degree of control and to be screened for long-term complications. Known diabetics with a new problem are referred for assessment and treatment. On completion of the treatment the patients are returned to their family practitioner for routine follow-up.

The diabetic clinic employs a dietitian and chiropodist to whom the family practitioner has direct access. A part-time specialist health visitor attached to the clinic liaises with practice health visitors and advises patients in their homes.

HOSPITAL LABORATORY

By providing two-hour interval blood sugar estimations (blood taken two hours after the start of a meal) the laboratory serves both the family practitioners and the clinic. No appointment is needed and patients attend when they like. Each time a blood sugar result is sent to the doctor it is accompanied by a further biochemical request card punched with the patient's basic recognition data. This service saves time-consuming form filling.

COMMUNICATIONS WITHIN THE SERVICE

Family practitioners' referral letters and clinic letters are used as normal. When a patient is referred back to the family practitioner two additional letters are sent. The first tells the doctor that he is being asked to follow up the patient routinely and reminds him of the facilities available; the second advises him that the patient has been instructed to test his urine at a given frequency per week and also to attend his doctor at a given frequency per year. This letter also contains advice on the standard of control expected (see table).

Guidance on ideal standards of control provided by diabetic clinic for general practitioners who are following up diabetics

Type of diabetic	Treatment	Ideal 2-hour interval blood sugar concentrations (mmol/l)	Urine glucose concentration
Non-ketotic	Diet	≤6.7	0%
Non-ketotic	Diet and oral hypoglycaemic agents	≤10.0	0%
Ketotic	Diet and insulin	≤11.1	0-1%

Conversion: SI to traditional units—Blood sugar: 1 mmol/l ≈ 18 mg/100 ml.

- NB (1) With increasing age standards of control may be relaxed.
 (2) During adolescence instability is the rule.
 (3) The ideal is rarely achieved.
 (4) Weight should be steady in the adult and near to that which is ideal for the patient's age, height, and sex.

Each patient is given a community care co-operation booklet,* which provides an additional means of communication between doctors in the diabetic clinic, general practitioners and nurses, and health visitors attending the patient's home. There is space for recording weight, interval blood sugar, urine test results, and current treatment and a check list to indicate when the patient was last assessed for disease of the eyes, nervous system, cardiovascular system, and the feet. Another section deals with diet, providing information to help both patient and doctor, and the third section gives advice on foot care, illness, insulin reactions, driving, and general instructions about attending the laboratory and family practitioner.

*Hoechst Pharmaceuticals (Meducation Department) will provide information on request.

Effect of service on patient care

THE PATIENT

Unfortunately we could not compare the standard of control achieved before the scheme started with that achieved afterwards without looking up many sets of notes. We hope soon to feed all blood sugar results from the hospital laboratory into a central computer register of diabetics so we shall know how often a given diabetic is being followed up and what his standard of control is. Then we shall provide each family practitioner every six months with a list of his patients and their interval blood sugar concentrations. He will then be alerted to backsliders and to those who are not being adequately controlled.

A questionnaire was sent out to patients cared for mainly by their family practitioners, and they overwhelmingly agreed that they preferred their own doctor to look after them. Some were initially reluctant to leave the clinic but when they realised that the doctors knew what they were doing the scheme was accepted. Usually patients do not have to wait as long to see their own doctor as in the clinic, and the two-hour interval blood sugar scheme means that patients are seen very quickly and do not have to wait long in the laboratory. A random sample of patients indicated that all were seen within 15 minutes of arriving at the laboratory, and three-quarters were seen within five minutes of arriving. The patients now being managed by their family practitioner fully accept the latter's role in diabetic care. Should any patient object violently to being looked after by his own doctor, however, or feel that he is not getting proper care then, of course, he would continue to be looked after by the diabetic clinic.

THE FAMILY PRACTITIONER

The heightened awareness of family practitioners to diabetes mellitus in the community and to long-term complications and the more acute problems of diabetes cannot help but improve the overall care of diabetics within the community.

Practitioners' work loads have increased but not to the extent that many feared. Before the service started many practitioners saw their diabetic patients anyway. Generally the practitioners have accepted the increased work load, and many were pleased to gain more expertise in treating diabetes. In response to questionnaires 87% said they thought that the scheme was satisfactory, but 5% thought it was poor; 66% thought that their patients preferred to see their own doctor for follow-up.¹

THE HOSPITAL

The spacing of two-hour interval blood sugar tests throughout the week has eased the work load of the hospital laboratory considerably. Before the scheme started all patients attending the diabetic clinic arrived on one day for blood sugar estimations; now estimations are spread throughout the week.

Before the community care scheme started two diabetic clinics were held each week. One of these clinics is now devoted entirely to screening for and following up diabetic retinopathy, with retinal colour photography and fluorescein angiography. We have thus been able to undertake a programme of more intensive care of the diabetic with retinopathy. This has included photocoagulation in suitable cases in conjunction with the department of ophthalmology. In the remaining clinic for routine follow-up patients needing tighter control attend more often and there is time to assess each patient for evidence of long-term complications. We were surprised to find how much retinopathy and neuropathy exist in patients not previously suspected of having these conditions. We can now measure the visual acuity, dilate the eye, and examine the fundus carefully. Patients with retinopathy are then referred to the retinopathy clinic.

The work load in the diabetic clinic has not decreased, but the emphasis has changed.

Future developments

In addition to the retinopathy clinic we are hoping to develop a computer-based method of assessing the follow-up and control of patients not seen regularly in the clinic. We also hope to standardise notes for computer storage of information so that the information we have is easily retrievable.

Conclusion

Obviously our service as organised in Poole would not be suitable for all diabetic clinics. Such a service must be tailor-made to suit local conditions. The mini clinics organised in Wolverhampton² would be unsuitable here because most local family practitioners prefer to look after their own patients.

The service has been criticised as being just a way of relieving the heavy work load for a consultant in a diabetic clinic, but it is also important to see it as a means of providing better and improved care for the diabetic within the community and allowing the consultant to deal with the difficult problems for which he has been trained.

I would like to acknowledge the help and advice given by my colleagues at Poole General Hospital, in particular by Dr C E Upton, the clinical assistant. I would also like to thank all the general practitioners in the area, without whose support the scheme could not operate. My thanks are also due to Winthrop Laboratories and Hoechst Pharmaceuticals Ltd for their continued help. I would also like to thank Mr R Stanton, computer manager, Basingstoke District Hospital.

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Problems of Childhood

Short stature

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Short stature may be a sign of treatable disease and a cause of distress by itself. Assessment is essential as early as possible in childhood for two reasons: firstly, treatment, if appropriate, is effective only if started well before the epiphyses fuse; and, secondly, when no specific treatment is available, an informed prognosis at an early stage may allay anxiety and enable advice and support to be given to the child.

Definition

There is no clear demarcation between normal and abnormal stature and so the definition of short stature is arbitrary. As a general rule, however, any child whose height falls below the third centile line for his community is considered to be short. In Britain the most appropriate and recent standards are the centile charts* prepared by Professor Tanner and his colleagues.^{1 2} The most useful ones have an extra line indicating three standard deviations below the mean (the third centile line is -1.9 SD).

Children with heights above the third centile may have disorders restraining their growth, but in such patients short stature is unlikely to be the presenting symptom. Occasionally, however, the parents of a child whose height falls above the third centile line will feel that he is short for their family. In these circumstances special charts that make allowance for parents' heights are of value.³

*These and the other charts prepared by Tanner and referred to in this article are available commercially from Creaseys Ltd, Castlemead, Gascoyne Way, Hertford.

Causes of short stature

The characteristic features of the main causes of short stature, their treatment, and the degree of stunting of adult stature that they produce are given in the table. In patients without disease the expected adult height may be reasonably estimated with a knowledge of present height and bone age and the help of special tables or growth charts.^{5 6}

Accurate figures of the incidence of most of the conditions in the table are not available, though most are very uncommon—for example, the approximate incidence of growth hormone deficiency is 1/10 000 and that of Turner's syndrome 1/3000 girls. In a recent urban community study only 16% of children whose heights were below the third centile had organic disease, and in most instances the nature of this was an obvious general disease, such as Down's syndrome, cyanotic congenital heart disease, or cystic fibrosis. Among the 84% "short normal" children at least a third came from severely depriving backgrounds and these children were not only stunted physically but also retarded in tests of intellectual function. Thus social deprivation is the most common pathological cause of retarded growth in this country.

Although the other conditions are uncommon causes of short stature, some are particularly important because specific treatment is available. Thus the approach to children who are short must take into consideration both the most likely causes and the treatable causes.

Diagnosis

SCREENING

Not all mothers of short children seek advice. In our experience 70% of mothers of children whose heights were below the third centile recognised that their child was short, though only 10% sought medical advice. Therefore routine measurement of all children should be done at some stage. There are obvious administrative advantages in this being done at school entry at the age of 4 or 5, although clearly children who are brought at an earlier age with short stature as a clinical problem should be investigated then.

All children whose heights are below the third centile should be seen by the school or family doctor when particular attention should be paid to the following points.

History—The history should include the parents' heights; the weight and gestational age of the child at birth; the pattern of growth since birth—for instance, from child welfare clinic records; the appetite, energy, and well-being of the child; any specific symptoms; and the social history, possibly from the health visitor who knows the family.

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