ABC of Diabetes

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CLINICAL PRESENTATION: WHY IS DIABETES SO OFTEN MISSED?

Thirst, tiredness, pruritus vulvae or balanitis, polyuria, and weight loss are the familiar symptoms of diabetes. Why then is the diagnosis so often missed? Of 15 new patients with diabetes presenting in our diabetic ward for the first time in ketoacidosis 14 had had no urine test after a total of 41 visits to their doctors. Almost all these serious cases could have been prevented.

Patients do not, of course, always describe their symptoms in the clearest possible terms, or else their complaints may occur only as an indirect consequence of the more common features. Many patients describe dry mouth rather than thirst, and I have seen cases investigated for dysphagia when dehydration was its cause. Frequency is often treated blindly with antibiotics; it may cause enuresis in the young and incontinence in the elderly and the true diagnosis is often overlooked. Complex urological investigations are sometimes performed before the urine is tested.

Confusion in diagnosis

Some diabetics present chiefly with weight loss, but even then the diagnosis is sometimes missed, and I have seen two teenagers referred for psychiatric management of anorexia nervosa before admission in ketoacidosis. Perhaps weakness, tiredness, and lethargy, which may be the dominant symptoms, are the most commonly misinterpreted: "tonics" and iron are sometimes given as the symptoms worsen.

Deteriorating vision is not uncommon as a presentation, due either to a change of refraction causing myopia or to the early development of retinopathy. Foot ulceration or sepsis in older patients brings them to casualty departments and is nearly always due to diabetes. Occasionally neuritis is the presenting symptom, causing exquisite pain in the feet, thighs, or trunk.

Glycosuria itself is responsible not only for the monilial overgrowth which causes pruritus vulvae or balanitis; some older men are first aware of diabetes when they notice white spots on their trousers. In hot climates drops of sugary urine attract an interested population of ants, and at least one patient now attending the clinic at King's College Hospital presented in this way before he came to England.

Patterns of presentation: insulin-dependent and non-insulin-dependent diabetics

Symptoms are similar in the two types of diabetes (insulin-dependent and non-insulin-dependent), but they vary in their intensity. The presentation is most typical and the symptoms develop most rapidly in patients with insulin-dependent diabetes; they usually develop over some weeks, but the duration may be a few days to a few months. There is usually considerable weight loss and exhaustion. If the diagnosis is missed diabetic ketoacidosis occurs (see below). Insulin-dependent diabetes may occur at any age, even in the very old, but is more common in patients under 30 years of age. Symptoms in patients with non-insulin-dependent diabetes are similar but insidious in their onset; sometimes these patients deny any symptoms, although they often admit to feeling more energetic after treatment has been started. These patients are usually middle-aged or elderly, but children do occasionally develop non-insulin-dependent diabetes.

Identifying patients in need of insulin

<u>Symptoms</u>	<u>Age</u>
rapid onset	any, more likely under 30
substantial weight loss	
weakness	
vomiting	
	<u>Blood glucose concentration</u>
	any
<u>Signs</u>	<u>Other indications</u>
usually thin	when tablets have failed
dry tongue	during pregnancy when diet has failed
weak	during intercurrent illness
	in patients who have undergone
	pancreatectomy
<u>Ketoacidosis</u>	
drowsiness	Ill patients need admission
dehydration	Others may start insulin at home
overbreathing	If there is any doubt <u>use insulin</u>
breath smelling of acetone	

Patients in need of treatment with insulin must be identified. This is done by judging the patient's clinical features: blood glucose concentrations offer a relatively poor guide, although most patients whose blood glucose is greater than 25 mmol/l are likely to need insulin.

Features suggesting a need for insulin are: a rapid development of symptoms; substantial weight loss—patients are usually thin; vomiting; dry tongue or more severe dehydration; weakness; and ketoacidosis—these patients are drowsy, dehydrated, overbreathing, and their breath smells of acetone (though many people are unable to detect this smell).

The following groups of patients are likely to need insulin: children and most of those under 30 years of age; women who present during pregnancy; diabetics whose tablet treatment has failed; all patients who have undergone pancreatectomy. If there is any doubt use insulin. It can never be wrong to do so, and if the decision was mistaken it can easily be reversed.

Test the urine

The diagnosis of diabetes should no longer be missed. New patients attending their doctor, whether their family doctor or at a hospital outpatient clinic, should have a urine test especially if their symptoms are unexplained. Only a few diabetic patients are wholly without symptoms and their diabetes is detected by screening at routine medical examinations.

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The first illustration is taken from Geyelin HR and Marrop G. *Journal of Metabolic Research* 1922;2:767-91, and the della Robbia panel is from the Ospedale del Ceppo, Pistoia, 1514.