Hospital Topics

Asian patients attending a diabetic clinic

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Abstract

Patients of Asian origin comprised 8% of the patients attending a diabetic clinic. Of the 201 Asian patients (120 male), 110 had been diabetic for more than five years, and although 141 were 40 to 60 years old, over one quarter had been aged under 40 at diagnosis. Thirty patients were being treated with insulin, but only eight were truly dependent on insulin compared with 18% of the white patients attending the clinic. Insulin was stopped in eight patients who were receiving insulin inappropriately; control was achieved by diet plus oral hypoglycaemics or diet alone. Over three years 37 patients were admitted with ketoacidosis but none was Asian. During the same period, however, five Asians were admitted in hyperosmolar coma.

Asian diabetics have a low prevalence of insulin dependence, possibly related to genetic and environmental factors, and some may be treated with insulin inappropriately.

Introduction

Asians, mainly from Pakistan, India (the Punjab), and Bangladesh, make up 8% of patients attending our diabetic clinic. To see whether there were any differences in clinical characteristics between the Asian and indigenous white diabetic populations we analysed data on all Asian diabetics who regularly attended our clinic.

Patients, methods, and results

The notes of every Asian patient who attended the clinic were examined and the following details recorded: age, sex, type and duration of diabetes, treatment, and complications. The criterion for true insulin dependence was the classical diabetic syndrome, rapidly progressive with florid symptoms, presenting with ketosis. We also examined records of all cases of diabetic ketoacidosis and hyperosmolar coma or precoma admitted to the hospital during 1981-3 inclusive.

Of 201 Asian patients, 121 were male and 141 were aged 40-60 years. At diagnosis, however, a quarter had been below the age of 40 (table). One hundred and ten had been diabetic for over five years. Eight patients were truly dependent on insulin compared with 390 of roughly 2200 (18%) white

patients attending the clinic (in addition, a further 300 white patients were treated with insulin but were non-insulin dependent). A further 22 Asians were treated with insulin though not prone to ketosis. Treatment with insulin had been started because of inadequate control when maximum doses of oral hypoglycaemics were used or because of associated conditions such as pregnancy or tuberculosis. One hundred and sixty three patients were treated by diet and oral hypoglycaemic agents (129 patients) or diet alone (34).

The remaining eight patients were considered to be receiving insulin inappropriately: five had presented initially with hyperosmolar precoma or coma, two with septicaemia and diabetes, and one with severe polydipsia and polyuria. When insulin was stopped control was achieved by diet alone (one patient) or diet plus oral hypoglycaemic agents (seven) (mean (SEM) post-prandial glucose concentration at follow up 7.6 (0.6) (137 (11) mg/100 ml); range 5.2-10.8 mmol/l (94-194 mg/100 ml).

One hundred and six (55%) of the non-insulin dependent diabetics were within 20% of their ideal body weight compared with six out of eight of the insulin dependent diabetics. The insulin dependent diabetics were younger overall (ages 19, 28, 32, 41, 47, 52, 54, and 80) compared with the non-insulin dependent diabetics (range 28-82, mean (SEM) 52.4 (0.74) years).

None of the 37 patients admitted to hospital with diabetic ketoacidosis were Asian, although during the same period five Asians were admitted with hyperosmolar precoma. Their mean age was 63, and the plasma glucose concentration ranged from 28 to 43 mmol/l (504-774 mg/100 m). All five patients were clinically dehydrated but had no signs of acidosis and had normal hydrogen ion concentration (range 38-44 mmol/l (38-44 mg/100 m). All initially required large amounts of physiological or half physiological saline and insulin, but they were all subsequently well controlled by diet and oral hypoglycaemics (four patients) or diet alone (one).

At diagnosis 28 Asian patients (14%) had pulmonary tuberculosis.

Discussion

The prevalence of diabetes in India is 2.1%,¹ but the prevalence among Asians living in Britain is uncertain. Asians form 8% of the total population attending our clinic. We found a low prevalence of insulin dependent diabetes in Asians (4%) compared with the 20% reported in white diabetics² and the 18% in the white diabetics attending our clinic. This difference was emphasised by the fact that no Asian was admitted with ketoacidosis during the three year study although five were admitted with hyperosmolar diabetic precoma. The low prevalence of insulin dependent diabetes is unlikely to have been due to our study being based in a hospital. Local general practitioners rarely manage the entire care of their patients who are treated with insulin, though some do look after their non-insulin dependent diabetics, suggesting that our figures may be an overestimate of the true prevalence of insulin dependence in Asian diabetics. Few studies have been carried out in the Indian sub-continent, but a recent study from Pakistan reported the prevalence to be about 3%.³

Several factors might be responsible for this low prevalence of insulin dependent diabetes. Most of our patients were middle aged (40-60 years), and most would be expected to be non-insulin dependent. The pattern of age at diagnosis, however, was similar to that for the indigenous white diabetic population, among whom diabetes is more common in those aged over 40. Indeed, diabetes was diagnosed in one quarter of our Asian patients before the age of

Distribution of age of Asian diabetics at presentation

Age at presentation (years):	10-19	20-29	30-39	40-49	50-59	60-69	70-79
No of patients:	2	12	38	74	58	13	4

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40. Differences between Asian and white diabetics cannot be explained by an increased prevalence of obesity in Asians as 55% of Asians with the non-insulin dependent diabetes were within 20% of their ideal weight.

The low incidence in Asians of HLA-DR3 and HLA-DR4 antigens,⁴ which are strongly associated with insulin dependent diabetes⁵ might explain our findings. In addition, epidemic infections with viruses such as Coxsackie B and mumps, which have been implicated in the aetiology of insulin dependent diabetes, occur more commonly in temperate climates.⁶ Pulmonary tuberculosis occurred more commonly than any single diabetic complication, suggesting that all Asian diabetics presenting for the first time should undergo routine chest x ray examination and possibly sputum examination for acid fast bacilli.

In conclusion, our results showed that there was a low prevalence

of insulin dependence among Asian diabetics, possibly related to genetic and environmental factors, and that some of these patients were treated with insulin inappropriately.

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Contemporary Themes

Screening of diabetics for retinopathy by ophthalmic opticians

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Abstract

Diabetes mellitus is a major cause of blindness in England and Wales in those aged between 30 and 64. Photocoagulation can frequently prevent blindness provided the retinopathy is detected at an appropriate stage but unfortunately the benefits are small if the changes are advanced. Early detection of diabetic retinopathy by regular examination is needed.

We have shown that ophthalmic opticians have the skill to detect retinal changes at a treatable stage. Out of 844 eye checks, 80 were reported by ophthalmic opticians to justify referral to an ophthalmologist and 20 of these required photocoagulation treatment. Of a sample of 197 patients rechecked by an ophthalmologist reported by ophthalmic opticians not to justify referral, only one needed treatment.

With local agreement this system of detecting retinopathy could be easily applied anywhere in the United Kingdom. No extra personnel or facilities are needed.

Introduction

Diabetes is a common cause of blind registration in the elderly¹ and the commonest cause up to the age of 65 in England and Wales.² Blindness is usually the result of retinal changes. There is no evidence that the incidence of blindness in diabetics is likely to be dramatically reduced by improved metabolic control or other means since sight threatening retinopathy seems to develop as a result of prolonged metabolic disturbance over many years. Retinal photocoagulation remains the best form of treatment as it

delays deterioration in vision and prevents blindness in proliferative^{3,4} and exudative maculopathy^{5,6}—provided treatment is given when the changes are early.

Unfortunately diabetics continue to be referred to ophthalmologists with advanced retinal changes and visual acuities so severely depressed that photocoagulation is ineffective. This state of affairs may arise either from failure to detect retinopathy at an appropriate stage or a delay in treatment. We suspected that delay in detection is the more important factor in the Frenchay district because many diabetics still do not have a regular retinal examination and not all doctors supervising diabetic care are skilled in retinal assessment. Hence we set out to see if ophthalmic opticians, who are highly skilled at retinal examination, would be willing to screen the eyes of diabetic residents in the Frenchay health district (population 210 000) annually and if so to assess whether their findings were accurate. A preliminary report was published in 1982.⁷

Methods

In January 1980 all ophthalmic opticians in the district were asked to attend a meeting with a consultant ophthalmologist (JCDH) and physician (CJB-C). They were invited to participate in a programme to screen for retinopathy in diabetics already under medical care and to have their findings subsequently assessed by a consultant or senior registrar in ophthalmology. Diabetic patients, except those already under the care of a consultant ophthalmologist or blind, would be asked if they would be willing after examination by their ophthalmic optician to attend the eye hospital for re-examination. The reasons would be explained to them.

A new diabetic card was printed to replace previous ones, with space to record appointments with the ophthalmic optician for annual eye checks. The cards would be distributed to diabetic clinics, general practitioners, hospital wards, and ophthalmic opticians' premises in the health district to enable all diabetics in the district to use the scheme if they wished. The forms on which ophthalmic opticians were to record their findings in diabetic patients attending for a check had two carbon copies. One was to be sent to the general practitioner, one to the coordinator (CJB-C), and the top copy retained for their own records. Data would include the patient's name and address, general practitioner, corrected visual acuities, and

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