atopic features, oral disodium cromoglycate has induced remission. A 16 year old boy with mucosal disease showed no improvement with combined disodium cromoglycate and cimetidine treatment.[2]

The serosal variant, illustrated by case 2, is rare in childhood but has been reported in an 18 month old boy[4] and two girls aged 2 years[5] and 15 years.[6] The differential diagnosis includes vasculitic disorders such as polyarteritis nodosa, abdominal lymphoma, long term peritoneal dialysis, or rupture of a hydatid cyst. Despite its sinister presentation, it responds readily to steroid treatment, although continued low dosage may be needed to maintain remission as in case 2.

Eosinophilic gastroenteritis carries a good long term prognosis.

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Are Tanner growth charts applicable to children at school entry in Leeds?

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SUMMARY Analysis of the heights and weights of about 85% of school entrants in Leeds in 1982 and 1983 showed that the distribution at a mean of 5·3 years is similar to the accepted standard centiles and confirms the appropriateness of the use of these standards at this age.

There has been much emphasis recently on the need for the screening of heights of schoolchildren to identify at an early stage those whose heights are outside the accepted normal range so that, where appropriate, investigation can be undertaken and treatment begun.

We are dependent in all methods of screening heights and weights on the availability of appropriate standards. Standards for children of different ethnic origins or in different parts of the country may possibly vary. Eveleth and Tanner[1] and Marshall[2] reported in detail population variations on the basis of many references. The former showed that at 4 years of age there is a range between the tallest and shortest European populations of 4 cm in mean height for boys and girls and 1·2 kg in mean weight for boys and 1·5 kg for girls. The changes were largely attributed to environmental causes but partly also to genetic causes. It is, however, difficult to define the relative importance of these factors. Marshall reported a 7 cm difference in stature of 6 year olds from the studies of four different ethnic groups of supposedly good socioeconomic backgrounds, but commented that this did not necessarily imply the same level of health and nutrition in all cultures.[2] There are, however, few observations on growth variables of children of different ethnic origins brought up in Britain or in different environments within this country. Goel *et al* studied the growth of immigrant children in Glasgow, comparing Asian, African, Chinese, and Scottish children, and found that Africans were tallest and Scottish and Chinese were shortest, and also that Africans were heavier than other groups.[3] Children born in Scotland were taller than those born in their country of origin, but, surprisingly, social class, living conditions, and diet bore little relation to growth. Arguably, from a screening point of view such minor differences do not matter, but nevertheless it seemed of value to examine the distribution of measurements of schoolchildren in a northern

industrial city and compare these with the usually accepted national standards.

Subjects and methods

It is the policy of the City of Leeds for all schoolchildren to be measured in association with a routine medical examination some time during their year of school entry (around the age of 5–6). These observations are usually undertaken by school nurses at school, using techniques and equipment of varying precision. These records are then stored in the district offices where they are available for future reference; whether any initial action is taken depends on the awareness, enthusiasm, and interest of the school medical officers.

A laborious search was undertaken of the records on Leeds school entrants for 1982–83 whose dates of birth fell between 1 September 1976 and 31 August 1977 (4250 out of a possible total of 5700) and the 1983–84 entrants with birth dates between 1 September 1977 and 31 August 1978 (6400 out of a possible 7500). It was not possible from these sources to be precise concerning the proportion of these totals that represented ethnic minorities, but this was probably about 10% (mostly West Indians, Indians, and Pakistanis).

The sample data were grouped in 0·1 year age bands and the 10, 50, and 90 percentiles for height and weight for boys and girls determined for each age band separately. As the total age range (roughly two years) was small the relation between the height or weight percentile and age could for practical purposes be considered to be a straight line described by the model: value at a given age=a+b (age −5·3), where a is the value at the central age of 5·3 years and b is the slope of the line.

The number of observations varied from one age band to another, as would be expected from the source of the data, and this was taken into account by fitting the above equation using weighted regression analysis with weights proportional to the number of observations in the age band. Such weighting is only approximate and will overweight values based on a small number of observations.

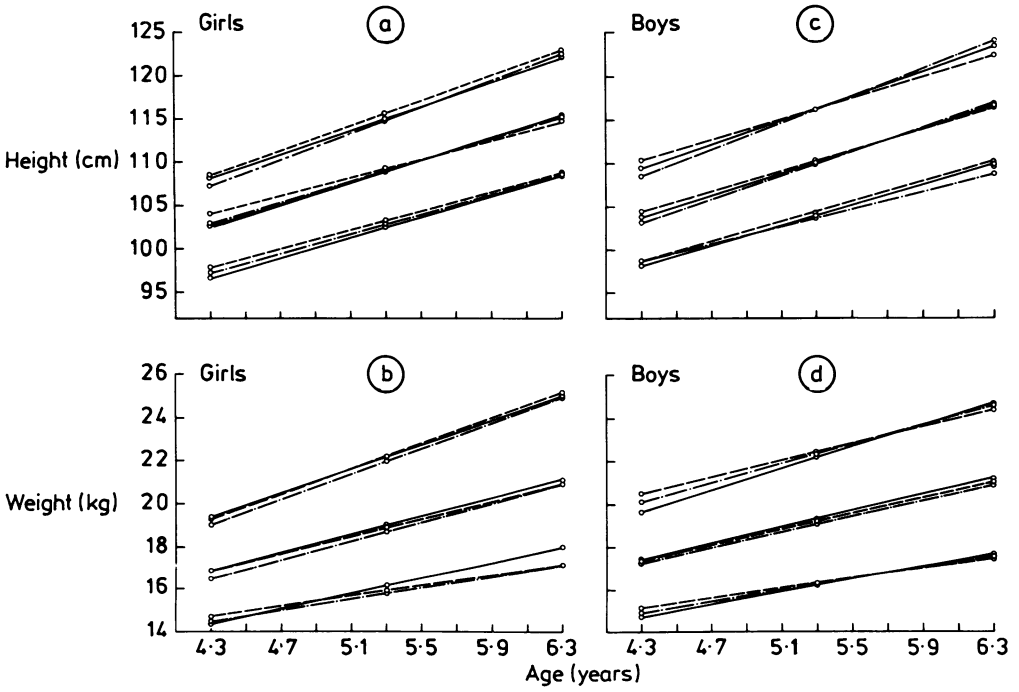

Figure *Height and weight centiles for Leeds children at school entry 1982–83 (dates of birth between 1 September 1976 and 31 August 1977) and 1983–84 (dates of birth between 1 September 1977 and 31 August 1978): (a) girls' height; (b) girls' weight; (c) boys' height; (d) boys' weight. (——=standard values;[4] -·-·-·-=1982–83 school year; – – – –=1983–84 school year).*

Results

The Figure shows the height and weight centile distributions of these school girls and boys (a, b, c, d), respectively, alongside the national standards. These are the height and weight standard charts of Tanner *et al*, based on measurements of school children in Oxford and London around 1960 and which are used by almost all British observers.[4] The Table compares the total values adjusted by the regression equation to a common age of 5·3 years, together with the 95% confidence limits, with the corresponding value read off the Tanner standard curve.

Thus there seems to be some significant differences for these relations between the samples of Leeds children and the published values—for example, the median (50th percentile) weight of both boys and girls from Leeds tended to be slightly lower. The magnitude of these differences, however, is sufficiently small to be of little or no practical importance, except perhaps in the case of the 10th percentile for girls' weight where the difference between the data for Leeds and the Tanner curve seems to increase with age.

Moreover, the 95% confidence limits are underestimates, because of the approximations in weighting according to number of observations. At the extreme ends of the age range the Leeds percentile values are derived from small numbers of observations.

Table *Comparison of height and weight (with 95% confidence limits) of new entrants to primary schools in Leeds in 1983 and 1984 with Tanner standards*

	Percentile	*Value at 5·3 years*		
		Tanner standard	*School entry in Leeds, 1983*	*School entry in Leeds, 1984*
Height (cm):				
Boys	10	104·0	103·78 (0·38)	104·37 (0·40)
	50	110·2	109·85 (0·27)	110·33 (0·25)
	90	116·5	116·22 (0·49)	116·37 (0·25)
Girls	10	102·7	102·96 (0·38)	103·36 (0·36)
	50	109·1	109·23 (0·25)	109·49 (0·23)*
	90	115·3	115·03 (0·16)*	115·81 (0·34)*
Weight (kg):				
Boys	10	16·2	16·25 (0·15)	16·33 (0·12)*
	50	19·3	19·05 (0·11)*	19·17 (0·08)*
	90	22·2	22·33 (0·30)	22·43 (0·23)
Girls	10	16·2	15·75 (0·18)*	15·92 (0·10)*
	50	19·0	18·68 (0·15)*	18·90 (0·11)
	90	22·2	22·00 (0·23)	22·24 (0·16)

*Denotes that the value at 5·3 years on the appropriate Tanner standard curve lies outside the 95% confidence limit.

Discussion

It came as somewhat of a surprise that Leeds schoolchildren are so similar to their southern counterparts of 25 years ago. It might have been expected that with a rather lower economic setting and a higher proportion of immigrants that there would be an overall trend to smaller size. That this is not so is reassuring both as an indication of the general level of health and nutrition within this society and also as confirmation that the use of the Tanner standards is appropriate for another population group.

It may be, of course, that there has been a change in the characteristics of the population groups of Oxford and London, in accordance with secular trends, over the 25 years since the original standards were compiled and that Leeds schoolchildren are running 25 years behind their more privileged southern counterparts!

In many other parts of the country similar information on growth patterns will also be available and has probably been similarly analysed, and collation of these data would be of great interest.

The outcome of this study is only applicable to this small age range, and it would be unjustified to assume that the similarity to Tanner's standards will also be found at other ages.

It is clearly a matter for discussion what are appropriate standard charts for a particular population.[5] Arguably, Tanner charts, representing a large, supposedly normal, healthy group, are appropriate for use throughout Britain and possibly the world, irrespective of how well they match the measurements of local children. Centile charts show the spread of the measurements of a particular population group as it actually is, not necessarily as it ideally should be! Many populations will contain high proportions of children who are not optimal in their growth because of such factors as chronic disease or malnutrition (due to either too much or too little food). What are appropriate standards for such populations?

I thank Dr A Baines and Mrs J Wild for their help, particularly with the statistical analysis, and Mrs J Holdsworth for thorough searching of school records and compilation of the growth data.

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Wiedemann-Beckwith syndrome in one of monozygotic twins

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SUMMARY A pair of monozygotic twins discordant for Wiedemann-Beckwith syndrome is described. The probability of monozygosity is 0·995. This observation suggests that the syndrome is unlikely to be under single gene control and genetic counselling should be based on multifactorial inheritance.

More than 20 years ago Wiedemann and Beckwith independently described a new syndrome characterised by exomphalos, macroglossia, and gigantism.[1 2] Since then there have been reports identifying the Wiedemann-Beckwith syndrome and drawing attention to the frequency of familial cases.[2] Attempts have subsequently been made to explain the aetiology of this condition in genetic terms and mechanisms such as autosomal recessive, autosomal dominant, premutation, and delayed mutation have all been postulated.[2] We report the occurrence of the syndrome in one of a pair of monozygotic twins and suggest that the aetiology of this condition is therefore unlikely to be under single gene control.

Case report

A pair of monozygotic female twins were born to a 28 year old, para 1, healthy woman at 36 weeks' gestation by spontaneous vertex delivery. The parents were unrelated, and the antenatal period was uneventful. Father and maternal grandfather suffered from diabetes mellitus. The 3 year old sibling was healthy. At birth a single monochorionic placenta was noted.

The proband, first of the twins, weighed 2430 g (>10th centile), the co-twin weighing 2130 g (<10th centile). The most striking features on examination of the proband were macroglossia, moderate sized exomphalos, and widely spaced nipples. No indentation of the ear lobules was noted. Early hypoglycaemia was managed with dextrose infusion, and the exomphalos was corrected within the first 24 hours of life. The second twin was of normal appearance but was small for gestational age. There were no neonatal problems. Examination of the parents did not reveal any ear creases, posterior pits, or divarication of rectus muscles, and they were not of large birthweight.

After initial catch up growth the second twin's growth variables at the age of 18 months continued along the 10th centile, and developmental assessment at that age was within normal limits. The proband had feeding difficulties related to her macroglossia, and partial glossectomy was eventually performed at the age of 17 months. Despite these problems her growth has continued along the 50th centile for height, weight, and occipitofrontal head circumference. At the age of 18 months her development was delayed by six months. No abdominal mass was detected at any time.

Investigations to determine zygosity showed both twins to be of blood groups A, rr. They were identical when typed for Kell, Fy^a, Jk^a, P1, and MNS. In the HLA system both were A 3, 30, B7, 13, and CW 7. The parents were also typed and the final probability of monozygosity was 0·995. Chromosomal preparations were made from cells cultured from peripheral blood of both twins and stained to reveal both C and G bands. No differences were observed in C band polymorphisms, thus supporting monozygosity, and no abnormality was detectable on any chromosome of either child. Chromosome 11 was particularly closely examined on prometaphase cells.

Discussion

The occurrence of Wiedemann-Beckwith syndrome in one of a pair of monozygotic twins is described with the affected twin showing the classical features of the syndrome—namely, exomphalos, macroglossia, and hypoglycaemia. The one previously pub-