address the issue of selection bias in their study population. Hypertension in black people may be diagnosed at a more advanced stage than in the general population, and referrals to a specialist clinic may also differ by ethnic group. This would mean that the true degree of hypertension was greater in the black people studied.

These selection biases can be overcome by a population based study. In such a study we showed that average resting systolic blood pressure is 6 mm Hg higher in men of black African descent and 17 mm Hg higher in women of black African descent than in the general population.[2] Further, we showed that the nocturnal fall in blood pressure is less in black than white people, even when resting blood pressure is taken into account. The overall burden of hypertension for a similar blood pressure would therefore be greater in black than in white people.

People of black African descent have a greater mortality from stroke,[3] more left ventricular hypertrophy,[4] and more renal damage[5] than white people. Racial differences in cardiac structure alone cannot account for this. A more plausible explanation is that ethnic differences in hypertensive load are inadequately characterised by current methods of blood pressure measurement.

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Ultrasound dating and birth weight at term

EDITOR,—Tine Brink Henriksen and Allen Wilcox[1] comment on our finding that the birthweight curve in our study was steeper at term than that observed in other studies.[2] We ascribed this to our use of dates based on routine ultrasound scans instead of menstrual dates to derive our weight for gestational age standard.[2] They suggest that a constitutionally large fetus's gestational age is overestimated by the dating scan and that therefore bigger babies, with presumably larger birth weights at term, would selectively be plotted against later gestations, thus creating bias.

While it is true that the study they refer to showed variation in biparietal diameter between small (≤10th centile) and large (≥90th centile) babies,[3] the difference between these extremes amounted to only about 1·5 mm at 18 weeks (figure 2 in reference 3). This difference is equivalent to less than one day's variation in gestational age[4] and would translate at term to a difference in birth weight of under 20 g. In contrast, our mean birth weight at 40 weeks (3522 g) is about 120 g higher, at 41 weeks (3652 g) 167 g higher, and at 42 weeks (3750 g) 260 g higher than previous British birthweight standards, which are based on menstrual dates and show considerable flattening at term.[2]

We have since examined our accuracy of gestational dating by ultrasound measurement of the fetal biparietal diameter using Campbell and Newman's dating tables.[4] We studied 19 consecutive singleton, normal term pregnancies resulting from assisted conception by in vitro fertilisation or intrauterine insemination booked at our hospital. All had the usual detailed ultrasound examination at 18-19 weeks by ultrasonographers who were not aware of the precise gestational age at the time of measurement. Gestational age derived from the biparietal diameter[4] was compared with the true gestational age as determined from the date of fertilisation. The mean error (age estimated on ultrasonography minus true gestational age) was −0·57 days, with a standard deviation of 2·96 days and normal distribution.

We then looked at the possible effect of constitutional variation shown by the measurement obtained from the dating scan on the subsequent birth weight. There was no significant correlation between biparietal diameter centiles, adjusted for gestational age, and birth weight for gestation centiles (r=0·256; P=0·37). Furthermore, there was no significant difference in average birth weight for gestation centile between the two groups of babies that had the largest and smallest biparietal diameters (average of centiles, 47 *v* 40).

Thus the 95% confidence interval for ultrasound dating by biparietal diameter is −5·9 to 5·9 days in our unit. In contrast, as we previously reported,[5] "certain" menstrual dates (routine ultrasound dates being used as a reference) have a heavily skewed distribution of error of −9 to 27 days (95% confidence interval). This inclination for menstrual dates to overestimate the true dates can led to birth weights being plotted against gestational ages that are too advanced. We believe this to be the reason for an artificial flattening of the birthweight curve, emphasing the need for dates of determined on the basis of ultrasound scans to be used to derive accurate birthweight standards.

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Vitamin K for neonates

EDITOR,—Whether vitamin K predisposes children to cancer certainly needs investigation. However, this issue was not central to my article,[1] as Gerald Draper and Andrew McNinch seem to suggest.[2] My question is whether any serious side effects exist for this drug and whether it is possible to justify treatment of 25 000 babies at low risk of haemorrhage to avoid one major haemorrhage without regard to the possibility that we might endanger many more than one child. Because of the difficulty of investigating small risks of unspecified type, the treatment decision will eventually rely on prejudice concerning the likelihood of risks more injurious than the benefits. The point I made was that grosser risks can, and should, be excluded by clinical trial.

It is difficult to comment on doubts about the ethics of a randomised, controlled trial when it is not clear what treatment strategy is being proposed as more ethical. The options for infants at low risk of early haemorrhage seem to be to recommend treating all; to recommend treating none; and to recommend joining a clinical trial. Probably, with our present very limited state of knowledge, any of these would be ethical provided a clear statement of our uncertainty is made to the parents. The major advantage of the clinical trial is that it helps to reduce uncertainty in a way that none of the other options can. It is this property which makes me believe that it is the most ethical policy.

Doctors should be cautious about endorsing a policy of treatment for all. The argument that we know for sure that one very rare disease is eliminated by treatment is weak. If a child suffers a haemorrhage when untreated, both doctors and parents must suffer the pain of knowing that, with hindsight, this could have been avoided. However, avoidance of such personal pain is not a good reason for following a treatment strategy which may cause more suffering overall but allows us to remain ignorant of our causal role.

If non-treatment is recommended then Draper and McNinch's suggestion of making carers aware of the importance of warning bleeds should be followed, and it probably makes sense to suggest to breast feeding mothers who experience major difficulties during the early weeks that they consult a health visitor concerning supplementary feeding without delay.

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Thalidomide may be a mutagen

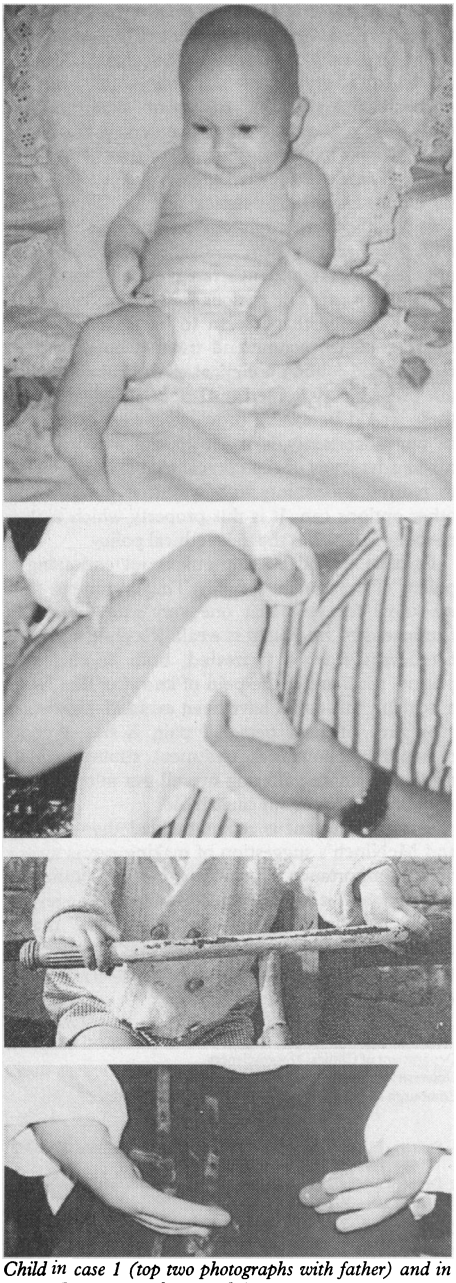
EDITOR,—The birth of two malformed children in England raises the question whether thalidomide, α-phthalimidoglutarimide, is a human mutagen as well as a potent teratogen. The fathers of both children are thalidomide victims.

CASE 1

In July last year a girl was born in Peterborough with no thumbs and only two digits on both hands. She has severe malformations of both legs, and the left leg is much shorter than the right. Both feet taper to one toe, neither of which has nails. Her father was born in 1960 with malformations of both hands and both legs. He was treated at the Hospital for Sick Children, Great Ormond Street, and his legs were amputated below the knee because of the severe malformations of both feet. He was assessed by the Thalidomide Victims' Compensation Panel and was awarded substantial damages and an annual pension for his severe disabilities. His mother, who is now dead, said that she had taken six to eight thalidomide tablets.

The affected child has two siblings, both boys, who are normal. Her mother was well during the pregnancy, had no bleeding in the early weeks of pregnancy, and took no medication. She had three ultrasound scans.

The *x* ray report of the child's limbs showed



Child in case 1 (top two photographs with father) and in case 2 (bottom two photographs)

slight shortening and bowing of both tibiae with overgrowth of the fibula, probably resulting in dislocation of the ankle. Ossification was seen in a slightly enlarged calcaneum, with one tarsal ossification centre and one metatarsal and a triphalangeal digit. Both hands show some ectrodactyly with two triphalangeal digits associated with two metacarpals.

Her father has no thumb or digits on the right hand but has a thumb and one digit on the left hand and has normal forearms. He has four brothers and four sisters, who are all normal. His siblings have produced 18 children and five grandchildren, all of whom are normal. The child's mother has one sister and three brothers, all of whom are normal.

CASE 2

Another thalidomide victim, in Kent, has also fathered a child with limb malformations. The father has bilateral malformations of the forearm and hand and also suffers from left sided deafness. His daughter also has malformations of both forearms and hands. His first child, a boy, is normal.

COMMENT

It is recognised that thalidomide can affect most of the major systems of the body, depending on the time of embryogenesis when it is given, although the pattern of malformations shows wide differences, even when it was taken at the same stage of pregnancy. For example, in a triplet pregnancy in a marmoset, *Callithrix jacchus*, one normal and two malformed fetuses were observed: one of the malformed fetuses had anotia and almost complete amelia of all four limbs, while the other had only minor degrees of ectromelia of the upper limbs (unpublished observations).

At the molecular level thalidomide affects the secondary structure of rat embryonic DNA.[1]

Thalidomide might possibly damage the embryonic ovary or testes in some people. The occurrence of double uterus and double vagina in some victims was not recognised until 1981,[2] 20 years after malformations due to thalidomide were first described.[3]

Comprehensive studies of thalidomide victims were done in Japan by Hamada and Matsumoto[4]; they suggested the need for close follow up of patients damaged by drugs, with attention focused not only on morphological defects but also on functional defects that might develop in various organs.

The mechanism of thalidomide teratogenesis has not been completely elucidated. The birth of these children raises the possibility of thalidomide being a human mutagen. If it is, it will be the first drug shown to affect future generations. It will cause us to rethink our testing procedures for all drugs.

These case reports are published with the written permission of the families.

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** We asked Andrew Read, a medical geneticist, to comment on these cases.

EDITOR,—This report raises a concern that it is right to air but that I believe is almost certainly unfounded. I think that everybody agrees that the classic malformations due to thalidomide were caused by interference with the way in which genetically normal embryos develop and not by mutations. If thalidomide had a second, independent activity as a mutagen there would be no reason why it should specifically produce mutations leading to limb malformations. Mutagens attack genes at random. Thus mutagenesis might equally well result in achondroplasia or neurofibromatosis or any other genetic condition in which new mutations are frequent.

I think that W G McBride and I agree that the two affected children probably have genetic syndromes. The baby in case 1 seems to have split hand deformity (No 18360 in McKusick's catalogue[1]). A similar case, but not involving thalidomide, was reported by Sommer and Hines.[2] The child in case 2 has a different condition, involving reduction of the whole arm and shoulder, probably the Holt-Oram syndrome (McKusick no 142900). The Holt-Oram syndrome is associated with heart defects, but these do not occur in all cases.[3] Both conditions are autosomal dominant conditions, so it is no surprise that each child has an affected parent. The grandparents are reported as unaffected, which suggests that a new mutation has occurred at some point in each pedigree, as frequently happens with these dominant malformation syndromes. Since each father was exposed to thalidomide in utero it is quite possible that the fathers' malformations were caused by thalidomide—or maybe by a combination of a genetic predisposition and the teratogen.

It is important to remember that many thalidomide victims have producd entirely normal babies. Without much more substantial evidence it would be wrong to burden these people with inherently implausible worries about hereditary defects.

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Ear piercing and children's rights

EDITOR,—Over 12 months at our accident and emergency department in Cardiff we saw 32 cases of embedded earrings, mostly in children. Nine of the 32 cases showed signs of infection and these were all in the younger age groups. All patients presenting with an embedded earring required a minor surgical procedure under local anaesthetic to remove the retained piece. In a survey of ear piercing in the general population presenting to the department, 200 consecutive patients (100 male and 100 female) were seen. Half of each group were under 14 years old. Of the girls under 14, the average age of piercing was 4 years (range 6 months to 10 years); of those over 14, the average was 18 years (range 1-60 years). A similar trend was seen in the males but with fewer ears pierced in total.

Ear piercing among children seems to be on the increase and is being performed at an earlier age with each generation, with some of today's generation having their ears pierced as neonates. Well recognised complications include infection, allergy, inhalation, keloid, and embedding.[1-4] No useful guidelines have as yet been described except to suggest that ear piercing should not be performed in young children. Children should be involved in their health care according to their age and maturity rather than becoming "passive recipients" of their parents' views. Infants have not had the opportunity to make an informed decision. In older children, inappropriate advice and direction was present.

This coincides with Luisa Dillner's article highlighting the fact that Britain continues to ignore the rights of children despite ratification of the United Nations Convention on the Rights of the Child two years ago.[5] We have distributed guidelines on good practice to interested health professionals advising parents who still want to have their child's ears pierced. These guidelines should help reduce the unnecessary distress and suffering endured by children, who are victims of their parents' fashion beliefs. These guidelines are available on request.

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