

that might be life saving should be discarded without sufficient evidence of its neurotoxicity in children with ataxia telangiectasia. We would like, however, to make the following comments in reply.

First, the appearances found on the computed tomogram in our patient are not seen in uncomplicated ataxia telangiectasia and resemble more closely those seen in methotrexate induced encephalopathy<sup>1</sup> rather than in radiation encephalopathy.

Second, the neuropathological changes found in the brain biopsy were 'a variable degree of demyelination accompanied by a florid astrocytic reaction and spongiform change. Small fragments show total necrosis in the absence of a cellular reaction and there is considerable fibrin deposition accompanied by haemorrhage suggesting a subacute vasculopathy of some months standing'. The vasculopathy might well be a feature of radiation encephalopathy but the overall findings are more consistent with those found in methotrexate induced encephalopathy.<sup>2</sup>

As we said in our paper we also regarded the experience of Toledano and Lange<sup>3</sup> as evidence that in ataxia telangiectasia intrathecal methotrexate treatment without cranial irradiation could be followed by neurological deterioration (case 5 in their review). The case report by Abadir and Hakami also suggests that there may be increased sensitivity to methotrexate in ataxia telangiectasia,<sup>4</sup> and in fact Dr Pritchard and his colleagues acknowledged in the discussion following their reported case that there was evidence in the literature of an increased neurotoxicity from intrathecal methotrexate in ataxia telangiectasia.<sup>5</sup>

Dr Pritchard requests further details about the gaps in chemotherapy. In the first year treatment was withheld for 14 weeks and in the second for five weeks. The doses of chemotherapy, however, were decreased in the second year to allow more continuous treatment and thus in the first year the total dose of mercaptopurine was 8680 mg and of methotrexate was 365 mg and in the second year the total doses were 8540 mg and 395 mg respectively. It is unlikely that radiation induced damage to the negligible amount of bone marrow in the craniocervical area was the cause of our patient's intolerance to chemotherapy.

It is clearly very important that any available experience with chemotherapy in children with ataxia telangiectasia should be carefully recorded in the literature as soon as possible. I am sure we all agree that specific recommendations for the treatment of children with ataxia telangiectasia and a malignancy are needed urgently. These perhaps would be best devised and publicised by the UKCCSG. Finally we would like to reiterate our main point that preexisting motor handicap, even if it is mild and apparently non-progressive, in a child with a malignancy should ring alarm bells about possible ataxia telangiectasia.

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## Outcome after antenatal diagnosis of upper urinary tract dilatation by ultrasonography

Sir,

We read with interest the paper by Gunn *et al.*<sup>1</sup> Although they reported a higher incidence of antenatally detected urological abnormalities than in most other published series, their experience in New Zealand is very similar to ours in a district general hospital serving a stable, well defined population in the north of England.

If their results are related to total births, rather than to the number of fetuses examined after 28 weeks' gestation, the incidence of abnormalities was 7/3228, or 2.2/1000 births, 1.6/1000 being pelviureteric junction obstruction.

During the period 1985-7, out of a total of 5762 births, we have found 13 cases of definite urological abnormality, a rate of 2.3/1000. Ten of these (1.7/1000 births) had pelviureteric junction obstruction, two hydronephrosis with megareter, and one isolated megareter. All 13 had intravenous urography and were then referred to paediatric surgeons who arranged isotope renography or micturating cystourethrography, or both, when necessary to establish a precise diagnosis.

These results are quite different from those reported recently by Scott and Renwick over the period 1984-6 from the Northern Region Fetal Abnormality Survey,<sup>2</sup> in which we participate. They found only 162 abnormalities in 121 849 births, a rate of 1.3/1000, and of those only 37 (0.3/1000) were 'hydronephrosis' (which we equate with pelviureteric junction obstruction). We have therefore detected many more cases of pelviureteric junction obstruction than this region as a whole, though a similar rate of other urological abnormalities.

Like Gunn *et al* we also found that, where recorded, the maximum dimension of the fetal renal collecting system was 15 mm or greater in all cases that proved to have definite pathology (table).

Table Relation of fetal renal pelvic size to outcome

Outcome	Maximum recorded dimension of fetal renal pelvis			
	<15 mm	15-25 mm	>25 mm	Not recorded
Definite pathology	0	5	9	1
Minor variation				
from normal	4	12	1	3
Normal	7	7	2	4

In some cases each kidney appears separately, therefore the total number is slightly higher than the number of cases.

We do not know what proportion of our patients were scanned in the third trimester, but during 1985–7 the mean number of ultrasound examinations per booked pregnancy was 2.7. In contrast to Gunn *et al*, six out of 15 cases of definite pathology detected to date were first suspected between 15 and 19 weeks' gestation. We agree with them, however, that in addition to a routine scan at about 18 weeks, every fetus should ideally have a further ultrasound examination after 28 weeks' gestation.

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## Mother's choice to provide breast milk and developmental outcome

Sir,

The recent paper by Morley *et al* discussed some of the dangers of interpreting the higher Bayley scores at 18 months that were achieved by very low birthweight babies whose mothers expressed an intention to breast feed compared with those whose mothers did not.<sup>1</sup>

In a detailed analysis of breast feeding and child development in the 1970 National Cohort (CHES), adjusting for all factors predictive of initially deciding to breast feed, strong relationships were found linking breast feeding decision to above average scores in a picture vocabulary test and a human figure drawing test at 5 years of age, and the Edinburgh Reading Test at 10 in both primiparae and multiparae. Furthermore higher average British Ability Scale scores characterised 10 year old children who were breast fed as infants.<sup>2</sup>

Language development and vocabulary and drawing skills at 5 years have now been examined for infants with birth weights of less than or more than 2537 g whose mothers breast fed their infant wholly or partially during the first seven days postpartum. In a multiple logistic regression analysis on both birthweight groups, the odds ratio of above average skills in the initially breast fed group were computed, having adjusted for the same factors predictive of breast feeding used by Morley *et al*: educational qualification of mother, mother's age and parity, marital status, social class, method of delivery, gestational age, birth weight, and sex of infant. No adjustment could be made for the number of days of ventilation as these data were not available. The results (table) indicate similar modest associations between initial breast feeding and intellectual outcome for both birthweight groups with

Table Adjusted odds of higher than average scores on three developmental tests at 5 years of age of children initially breast fed during the first week of life (1970 National Cohort)

	Birth weight (g)	
	<2537	≥2537
<b>Copying Designs Test</b>		
Adjusted odds ratio	1.09	1.13
95% Confidence intervals	0.89 to 1.34	1.08 to 1.18
p Value	0.41	<0.0001
Sample size	441	8146
<b>Human Figure Drawing Test</b>		
Adjusted odds ratio	1.09	1.08
95% Confidence intervals	0.88 to 1.35	1.03 to 1.13
p Value	0.42	0.0012
Sample size	430	8011
<b>English Picture Vocabulary Test</b>		
Adjusted odds ratio	1.06	1.11
95% Confidence intervals	0.86 to 1.32	1.06 to 1.17
p Value	0.57	<0.0001
Sample size	416	7712

small sizes and large standard errors probably responsible for the lack of significance in the low birthweight group.

These results might seem to indicate support for a breast feeding effect. However, in further CHES studies of antenatal class attendance, smoking behaviour, and immunisation, similar associations with educational and intellectual outcomes can be linked to 'positive' health behaviour in the mother.<sup>3</sup> Caution is therefore demanded in interpreting the present results.

As Morley *et al* recognise, mothers of preterm babies prepared to breast feed are likely to comprise an especially motivated group. Their family characteristics are likely to be associated with above average educational stimulation of their children. Furthermore, one should be wary of linking 'intentions to breast feed' with substantial breast milk consumption as these may not be matched by 'actual breast feeding'. In the CHES study there was a high preponderance of very short term breast feeders.<sup>4</sup>

Conversely, intentions to engage in healthy behaviour are probably indicative of a wide range of motivations likely to be associated with advantageous parenting styles and favourable outcomes in the child. Only when breast feeding in the population is unrelated to socioeconomic advantage, mother's background, attitudes or personality, or other forms of health behaviour, can its long term impact on development and intellect be properly determined.

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