

prediction of survival of patients with primary biliary cirrhosis,<sup>1</sup> the calculated R value was high (9.6). The patient and her family were informed that LRLT might be possible, and they indicated their willingness to consider this option with the patient's 25-year-old son acting as the donor. The standard liver volume for the patient was calculated to be 570 mL on the basis of body surface area. Volumetric analysis with computed tomography revealed that the left lobe volume of the donor's liver was 434 mL, corresponding to 47% of the recipient's standard liver volume. In our experience, a patient who received a graft weighing 80% of the standard liver volume recovered uneventfully after transplantation.<sup>2</sup> Therefore we decided that LRLT was indicated for this patient. This proposal was submitted to the ethical committee of Shinjuku University School of Medicine and was accepted.

In November, 1993, the patient underwent LRLT with the donor's left lobe as the graft. We have described the procedure used for LRLT elsewhere.<sup>3</sup> The recipient regained consciousness 10 h after the operation. Volumetric analysis showed rapid enlargement of the graft to 1140 mL, as early as 2 weeks after the operation. Both the patient and donor were discharged from the hospital and are now leading normal lives.

In Japan, because of the legal difficulties associated with cadaveric donation, LRLT is the only type of liver transplantation permissible. Accordingly, the application of LRLT for adult recipients is now being discussed. We have carried out 14 LRLT operations for children with end-stage liver disease, and 14 of them are alive. Among the recipients, the oldest and heaviest was a 15-year-old boy with subacute fulminant hepatic failure, who successfully received his father's left hepatic lobe.

LRLT for adult recipients is not the established procedure; it is for children, and decisions regarding its use should be made carefully. However, due to the limited supply of donor livers and the difficulties associated with cadaveric donation, LRLT may become an option for adult patients for whom urgent transplantation is indicated.

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## Apolipoprotein E phenotype and blood pressure

SIR—Uusitupa and colleagues<sup>1</sup> showed that in a selected Finnish population sample (n=159), individuals with either the apolipoprotein (apo) E4/E4 or E4/E3 phenotype had a significantly higher (8 mm Hg) systolic blood pressure than individuals with other apoE phenotypes. Intrigued by this association we analysed blood pressure in three independent populations for which apoE phenotypes were also available: (i) 302 fathers and mothers in 160 Dutch twin families; (ii) 532 elderly men participating in the Zutphen Study; and (iii) 136 Greenland Inuit men and women.

	ApoE phenotype group			Age
	E2/E2+E3/E2	E3/E3	E4/E4+E4/E4	
<b>Dutch twin families (fathers)</b>	n=23	n=86	n=45	48.1 (6.3)
Systolic BP (mm Hg)	129.6 (11.3)	127.9 (9.7)	128.9 (12.2)	
Diastolic BP (mm Hg)	82.5 (8.8)	80.4 (7.4)	81.3 (8.7)	
<b>Dutch twin families (mothers)</b>	n=27	n=94	n=27	45.6 (5.9)
Systolic BP (mm Hg)	125.8 (10.3)	126.7 (14.7)	123.8 (14.9)	
Diastolic BP (mm Hg)	79.9 (7.0)	77.3 (10.4)	77.4 (11.1)	
<b>Zutphen Study (men only)</b>	n=47	n=359	n=126	75.0 (4.6)
Systolic BP (mm Hg)	149.4 (19.8)	150.0 (21.3)	150.7 (22.4)	
Diastolic BP (mm Hg)	83.1 (10.7)	81.5 (11.6)	82.3 (12.4)	
<b>Greenland Inuit (men)</b>	n=2	n=37	n=23	30-35
Systolic BP (mm Hg)	112.0 (0.0)	116.9 (10.5)	121.4 (14.7)	
Diastolic BP (mm Hg)	61.0 (9.9)	72.5 (11.6)	73.1 (11.2)	
<b>Greenland Inuit (women)</b>	n=1	n=36	n=37	30-35
Systolic BP (mm Hg)	109	111.8 (13.7)	103.1 (16.0)*	
Diastolic BP (mm Hg)	73	73.4 (10.8)	66.9 (15.2)	

Analysis of variance (to compare three apoE groups in Dutch population samples) or t test (to compare only E3/E3 and E4/E4+E4/E3 Inuit groups) were used to compare unadjusted pressure levels. Only significant p-values (<0.05) are shown \*p=0.014. BP = blood pressure.

Table: Mean (SD) age, systolic and diastolic blood pressure, and apoE phenotype in Dutch and Greenland Inuit population samples

Detailed descriptions of these populations have been published elsewhere.<sup>2,4</sup> Blood pressure was measured with standardised protocols. ApoE phenotype was determined as described previously.<sup>3</sup> Individuals with the E4/E2 phenotype were excluded from analyses, because of the opposite effects of these two alleles on lipid metabolism. Analyses were done on unadjusted blood pressure values. Since men have a significantly higher systolic pressure than women, the association was studied in the sexes separately. In the Dutch population samples, we were unable to find a significant influence of apoE phenotype on systolic blood pressure (table). In the Inuit, because of the small population size, the E2/E2+E3/E2 group was excluded from statistical analysis. Inuit women with the E3/E3 phenotype showed a significantly higher systolic pressure than APOE\*4 allele carriers, whereas in Inuit men such an effect could not be established.

In these population samples of different ethnic origin, with different age and gender composition and not selected for plasma cholesterol concentrations, no consistent influence of apoE gene variability on systolic blood pressure could be found. Application of selection criteria for cholesterol concentrations similar to those used by Uusitupa and co-workers, and statistical analyses adjusting for age, body mass index, and use of anti-hypertensive drugs did not change the results in any of our three populations (results not shown). Thus although the apoE polymorphism affects plasma cholesterol in most populations, the hypothesis that apoE polymorphism affects blood pressure through its effect on low-density lipoprotein cholesterol, as suggested by Uusitupa and co-workers, is not sustained by our results.

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### Follow-up of children in the Italian Study of Aspirin in Pregnancy

5a—The CLASP study (March 12 p 419) results do not lend support to routine prophylactic or therapeutic administration of aspirin in pregnancy to all women at increased risk of pre-eclampsia or intrauterine growth retardation, but suggest that low-dose aspirin treatment is justified in women judged liable to early-onset severe pre-eclampsia. The use of low-dose aspirin in pregnancy, however, has raised concerns about safety. We have now concluded 18 months' follow-up of children born from women recruited in the Italian Study of Aspirin in Pregnancy (ISAP), and report the results with respect to the safety of chronic use of 50 mg of aspirin in pregnancy.

We undertook a postal questionnaire study 18 months after delivery. We asked about the child's vital status, height, weight, malformations, respiratory, hearing, and vision problems, and other major diseases. The other questions were derived from Scamardo's questionnaire,<sup>1</sup> in which there was agreement between parents and professionals on the gross and fine motor and language development of the child. The questions had age-related norms,<sup>2</sup> if a child was not able to perform a function that is lost 90% of 18-month-old babies could, he or she was judged to have gross or fine motor or language difficulties. This questionnaire was derived from that used in the paediatric follow-up of children of the CLASP study. We posted a reminder to non-responders after 60 days. Both mailings included a cover letter, the questionnaire, and a prepagated postal envelope. If no reply was received, we telephoned the parents three times, at different times of the day and of the week.

The follow-up started in October, 1989. Thus, 41 babies born before February, 1989, were not included. After exclusion of stillbirths and infants who died within the first week of life, a total of 1083 questionnaires were mailed (500 to the women allocated to aspirin, including 139 twins, and 583 to the no-treatment group, including 114 twins). Information was obtained for 427 children (72.4%) for the aspirin and 361 (73.2%) for the no-treatment group. General characteristics (maternal age, parity, education, status by vital entry, and weeks of gestation at randomisation) and pregnancy outcome (pregnancy-induced hypertension, duration of gestation, weight at birth, mode of delivery) did not differ among responders to the postal questionnaire and women who were contacted by phone or by telephone (data not shown). No significant differences emerged between the two groups with respect to indicators of development and health status (table). Malformations, diseases, and other health problems showed no specific pattern and were much the same in the two groups.

A weakness of this study is the percentage of non-responders. However, the results did not differ when the analysis compared information obtained by postal questionnaire with that obtained by telephone. The questionnaire asked the parents to indicate all the child's main problems; thus abnormalities and diseases were based on the parents' perception of their severity. It is unlikely that the allocation to aspirin or no-treatment affected the reporting, and, if anything, treated women should tend to be more accurate in recalling and reporting malformations or problems.

Cause of death (0-60 days (286 weeks) of life)	Aspirin (107)		No treatment (361)	
	No (%)	No (%)	No (%)	No (%)
Respiratory	0	0	0	0
Respiratory distress	0	0	0	0
Respiratory distress syndrome	0	0	0	0
Malformations*	0	0	0	0
Diseases†	0	0	0	0
Height <10 percentiles	26 (24)	26 (24)	44 (12.2)	44 (12.2)
Weight <10 percentiles	75 (70.1)	75 (70.1)	82 (22.8)	82 (22.8)
Health problems				
Respiratory	10 (10.3)	10 (10.3)	0	0
Other than vision	12 (11.2)	12 (11.2)	0	0
Hearing	0	0	0	0
Vision	2 (1.9)	2 (1.9)	2 (0.6)	2 (0.6)
Language	12 (11.2)	12 (11.2)	47 (13.0)	47 (13.0)

\*Major cardiac defects, vascular defects, cleft palate, cleft lip, congenital cataracts, Down's syndrome, chromosomal abnormalities, congenital deafness, hydrocephalus, kidney, hepatobiliary, spleen, testis, torticollis, cleft lip.

†Major cardiac, orthopaedic, renal, haemostatic, cerebral palsy, cleft lip, cleft palate, growth retardation, haemangioma, hyperhidrosis, epilepsy, Schistosoma-related disease, tuberculosis, squintus.

Missing in 41.

Table: Results of follow-up according to treatment allocation in the Italian Study of Aspirin in Pregnancy

With these caveats, our findings suggest that the use of low-dose aspirin in pregnancy is safe with respect to the risks of malformation and of major impairment in development at 18 months of age.

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### Evaluation of urine by turbidimetry

5b—Tomblin and Lattie (Feb 13, p 478) report the improvement of dipstick testing with an assessment of urine clarity for the screening of samples for paediatric urinary tract infections. With one modification (the addition of acetic acid to clear phosphate-related turbidity) Rawal's method of turbidimetric determination is essentially that used by physicians since the Middle Ages.

The ability to distinguish turbid urine from crystal clear in a consistent and reproducible manner probably imposes performance limits on such a test. With this in mind I did turbidimetric urine analysis on 258 randomly selected samples from all sources. Only culture specimens were excluded. All requests were for microscopy

	Threshold values (NTU)			
	12.0	18.0	24.7	31.8
Sensitivity (%)	88	88.1	88.1	88.2
Specificity (%)	82.0	82.0	82.0	79.0
PPV (%)	84.7	85.2	87.8	89.8
NPV (%)	86.1	86.5	87.8	87.2

NTU, positive predictive value; NPV, negative predictive value.

Table: Sensitivity, specificity, and predictive values