scores. The difference in the frequency of low Apgar scores between the two groups was not significant ($\chi^2 = 0.71$; $P < 0.50$), nor was there any clear association in this series between low Apgar scores and the mode of delivery. Though it is appreciated that a comparison may not be made between induced and spontaneous labours, it is noteworthy that in a similar series of 533 spontaneous labours studied prospectively 36 (7%) of the neonates had low Apgar scores, a frequency which does not differ significantly from that following induced labour.

While I do not claim that oxytocin is innocuous, there seems no reason to believe on present evidence that in the absence of hypertonus its use increases the risk of fetal hypoxia. Similar conclusions have been drawn by other workers.¹⁻⁴—I am, etc.,

BRIAN ALDERMAN

Department of Obstetrics and Gynaecology,
University of Liverpool

¹ Howie, P. W., and MacVicar, J., *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1970, 77, 813.

² Patterson, W. M., *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1971, 78, 310.

³ Turnbull, A. C., and Anderson, A.B.M., *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1968, 75, 32.

⁴ Weaver, J. B., Pearson, J. F., and Turnbull, A. C., *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1974, 81, 297.

SIR,—The purpose of an oxytocin infusion is to accelerate labour and to make the progress of labour started by forewater rupture more predictable. With amniotomy alone the start of effective contractions may be delayed more than 24 hours.

Mr. W. A. Liston and Mr. A. J. Campbell (7 September, p. 606) have highlighted the dangers to the fetus from oxytocin given by intravenous infusion in the active management of labour. An alternative and effective source of oxytocin is available from the mother herself as described by Salzmänn.¹ The disadvantages of this method are that the amount of oxytocin released cannot be seen or measured by the attendant and intermittent manual breast expression for one minute out of every five is very time-consuming. On the credit side the method is completely safe as overdosage does not occur from overstimulation. It can be applied without any apparatus at any stage of labour from induction to delivery. Anyone, including the patient herself, can apply manual stimulation and there is no need for the labour to be monitored as intensively as with intravenous oxytocin.

Salzmänn's method is more acceptable to patients who dislike being attached to a tube and bottle throughout labour and who fear the pains produced by the oxytocin drip. After straightforward adequate explanation of the method, preferably during the antenatal preparation when breast-feeding is discussed, expectant mothers accept the method and co-operate gladly.—I am, etc.,

D. R. FIRTH

Teignmouth, Devon

¹ Salzmänn, K. D., *Journal of the Royal College of General Practitioners*, 1971, 21, 282 and 670.

SIR,—As a practising hospital midwife I welcome the article by Messrs. W. A. Liston and A. J. Campbell (7 September, p. 606).

Many midwives feel uneasy about the indiscriminate use of this drug but see no alternative but to co-operate with the medical staff under whom they naturally wish to work amicably. I myself deplore the routine use of oxytocin, the more especially in hospital units which are not suitably equipped either to monitor the baby's heart constantly during induction or to deal with such emergency situations as may arise as a consequence of the drug. Alas, the question of whether there is adequate staff coverage at a given time is never raised. The low-Apgar-score infant, as described in the article, who does not survive more than 24 hours under intensive care must present a recognizable picture to any hospital obstetric practitioner these days, yet still oxytocin-induced labour flourishes. It is the woman who delivers spontaneously who is the exception today—she is almost a freak.

It is heartening to learn that oxytocin induction as a routine procedure has now been seriously questioned. I for one hope that such use of oxytocin to expedite delivery will cease.—I am, etc.,

MARY DIXON

Merseyside

HL-A Antigens and Immune Deficiency States

SIR,—Thirty-six Caucasoid children suffering from various kinds of immune deficiency were typed for 26 HL-A antigens. The HL-A genotype of 19 of them was determined.

HL-A1 was found in 17 patients, giving a frequency of 47%, which is more than twice that observed in the control population (21%) ($P < 0.001$, and P corrected for the number of antigens tested < 0.02). The classical HL-A1,8 linkage disequilibrium found in Caucasoids ($\Delta = +0.05$) was not observed in our patients—in only three cases

Diagnosis	Sex	HL-A Genotype
Severe combined immune deficiency	F.	-, W21/1, -
	M.	2, W15/Da25, 12 †
	M.*	1, 8/3, 7
	M.*	-, W27/3, 7
	F.	1, 12/1, 5
	M.	1, 9, -, -
Unclassified immune deficiency	F.	1, -/1, 5
	F.	3, W27/1, TYT
	F.	3, 7/1, 12
	M.	1, 8/W32, 13
	F.	3, 9, W5, -
	F.	3, 11, W10, W22
Probable sex-linked agammaglobulinemia (absence of β -cell markers)	M.	1, W22/11, W22
	M.	2, 3, W5, W27
	M.	1, 10, Da31, TYT
	M.	1, Da25, W18, TYT
	F.	2, W29, W5, -
	M.	1, 9, TYT, W5
Variable immune deficiency	M.	2, 3, 8, W22
	F.	2, Da25, 5, -
	F.	2, 12/3, W17
	M.	3, 9, 7, W18
	M.	3, -, W5, W15
	M.	2, -/W28, W27
IgA immune deficiency	M.	1, 9, W5, W10
	M.	W32, Da34/-, 8
	F.	1, -/9, 8 †
	F.	1, 5/W32, W15
	M.	1, 8/2, W10
	M.	1, 5/9, -
Ataxia telangiectasia	M.	2, W28, 7, W22
	M.	2, -, 5, W27
	M.	3, 9, W27, W22
	M.	2, 7/Da12, -
	M.	10, -, Da12, -
	M.	9, W29, W5, 12

-/- = Haplotypes obtained by genotyping; Da12 = HL-A3+11; Da25 = W30 + W31; Da31 = part of W16; Da34 = LK, Sabell.

*Probably sex-linked

†Two other patients (sibs) from the same family were typed: 2, W15/3, - and 1, W17/Da25, 12.

‡One of the patient's brothers also had ataxia telangiectasia and is Da25, 12/9, 8.

was HL-A8 associated with HL-A1 (see table).

In 19 published cases of HL-A-typed immune deficiencies a similar increase in the frequency of HL-A1 was observed (42%). Of the eight HL-A1-positive patients, only two possessed HL-A8. HL-A1 was not found to be increased in volunteers not responding to an Rh(D) immunization.¹ It was suspected that the HL-A1,8 phenotype was associated with a high immune response in nine recipients of cadaver kidneys (seven rejections).² However, Hamburger *et al.*³ observed a better graft survival in 62 HL-A1 kidney recipients receiving a haplo-identical graft (93% as opposed to 58% at one year, $P < 0.02$). France-Transplant's statistics also show that the survival of a first kidney graft was significantly better in the 141 HL-A1 recipient than in the 475 non-HL-A1 recipients (66% v. 53%, 59% v. 45%, 57% v. 38% at one ($P < 0.01$), two, and three years ($P < 0.5$) respectively). This increased survival rate would not appear to be influenced by the presence or absence of HL-A8 in conjunction with HL-A1. HL-A1 is also associated with certain diseases, but this would appear to be mainly due to its disequilibrium with HL-A8—for example, in myasthenia gravis.

To eliminate the obvious heterogeneity of our material, which involves sex-linked, autosomal recessive and unclassified cases of immune deficiency, this preliminary observation will have to be confirmed in a larger series comprising more cases in each category.

Up to the present time most if not all associations with diseases have involved an antigen at the second HL-A locus. If our observations were confirmed they would indicate that a gene involved in the control of differentiation possibly contributing to immune response is situated close to the first HL-A locus. This gene would not be analogous to an Ir gene, as described in mice, since these govern a specific response.—We are, etc.,

J. HORS
C. GRISCELLI
M. SCHMID
J. DAUSSET

Laboratoire d'Immuno-Hématologie,
Institut National de la Santé et de la
Recherche Médicale,
Centre Hayem,
Hôpital Saint-Louis,
Paris

¹ Hors, J., *et al.*, *Haematologia*. In press.

² Kissmeyer-Nielsen, F., *et al.*, *Transplantation Proceedings*, 1971, 3, 1019.

³ Hamburger, J., Descamps, B., Fermanian, J., *Comptes rendus hebdomadaires des séances de l'Académie des sciences D*, 1971, 272, 2029.

Place of Diagnostic Radiology in Medicine

SIR,—We are pleased to see Dr. A. S. Bligh's letter (14 September, p. 684) and to note the great improvements that an academic appointment have brought to the study of diagnostic radiology.

We would, however, very much like to see a similar improvement in the status of radiotherapy in Cardiff.—We are, etc.,

THOMAS J. DEELEY
I. H. EVANS

J. M. HENK
K. W. JAMES
T. PRIESTMAN

South Wales and Gwent Radiotherapy Service,
Velindre Hospital,
Cardiff