abated on the 4th day in hospital and her CSF returned to normal on the 12th day. However, her haemoglobin concentration which had been 117 g/l on the 4th day fell to 90 g/l by day 36; the haemoglobin concentration and the reticulocyte count improved gradually and returned to normal on day 73. There were no increases in serum antibody titres for measles, herpes simplex, mumps, rubella, cytomegalovirus, enterovirus 70/71, mycoplasma, toxoplasma, or chlamydia. She was discharged on the 21st hospital day without sequelae.

Unfortunately, we could not make a definitive diagnosis of B19 infection by polymerase chain reaction (PCR), hybridisation, etc, at that time, but we suppose that the acute manifestations of fever, meningitis, and anaemia are more likely to have been related to the B19 infection because B19 IgM was detected in serum, and because the mother simultaneously developed adult type B19 infection. Epidemiologically, the source of infection was thought to be the brother, considering that the incubation period for B19 infection is 17 to 18 days.³

Prenatal B19 infection could cause severe complications such as a hydrops fetalis, but the outcome of primary B19 infection in newborns is still unknown.

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- 1 Okumura A, Ichikawa T. Aseptic meningitis caused by human parvovirus B19. *Arch Dis Child* 1993; 68: 784-5.
- 2 Watanabe T, Satoh M, Oda Y. Human parvovirus B19 encephalopathy. *Arch Dis Child* 1994; 70: F71.
- 3 Anderson MJ, Higgins PG, Davis LR, et al. Experimental parvovirus infection in man. *J Infect Dis* 1985; 152: 257-65.

Outcome of triplet pregnancies

EDITOR,—The incidence of triplet and higher order pregnancies has more than doubled since 1980 as a result of new techniques for the treatment of infertility. Because of the high incidence of prematurity, triplets are at a high risk of neonatal complications and death. The poor reproductive histories of some mothers treated for infertility has led to the suggestion that such triplets carry a poorer prognosis than those naturally occurring, possibly as the result of earlier delivery.

Since 1980, 41 sets of liveborn triplets have been admitted to the Mersey Regional Neonatal Unit, Liverpool. Twenty eight sets were natural, and 13 the result of fertility treatments (six ovulation induction, six IVF, and one GIFT). The mean gestational age at delivery was 30.2 weeks in the natural triplets and 30.3 weeks in the others. There were five deaths in both groups; seven infants in the natural group and two in the infertility group have survived with major disabilities (cerebral palsy and/or blindness). Survival without major disability was not significantly different between the two groups (86% natural *v* 82%). However, only 75% and 61% triplet pregnancies admitted, respectively, resulted in three live children without subsequent disabilities.

It remains important to counsel couples undertaking infertility treatments concerning the morbidity and mortality associated with

higher order pregnancies, but such risks are probably not greater as the result of mode of conception, but, rather, relate mainly to prematurity.

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Acute blood pressure response to surfactant administration

EDITOR,—Saliba *et al* reported a significant increase in cerebral blood flow velocity (CBFV) and transcutaneous carbon dioxide tension (TcPCO₂) following rapid instillation of surfactant.¹ The rise in CBFV was related to, but not solely explained by, the increase in TcPCO₂. They found no alteration in one minute averages of mean arterial blood pressure (MABP). It is reasonable to expect that swings in systemic blood pressure could be caused by rapid intratracheal administration of surfactant and we would like to offer an explanation as to why the current method of measuring short term blood pressure change may obscure potentially important information.

All infants in our neonatal intensive care unit have continuous physiological variables transferred from a multiparameter monitor to a cotside computer,² and displayed in real time. Using this system to display second by second data during surfactant administration, we often detect significant blood pressure surges which can be biphasic in character and could therefore be obscured by looking at the mean change in pressure over a selected time period.

The figure shows the blood pressure trace from an infant receiving Exosurf as an infusion over five minutes. Each data point is a one second value and a total of 21 minutes is displayed. The trace is analysed as three equal time periods: before, during, and after

surfactant administration. If analysis were confined to mean values for each period of five minutes, the finding would be a 1 mm Hg fall in MABP during, and a rise of 4 mm Hg after, administration. These findings would not be impressive. However, detailed analysis within the time periods of administration shows a drop in MABP of 10 mm Hg below the pre-treatment baseline followed by a rise in MABP of 12 mm Hg above the baseline. An overall swing in MABP of 22 mm Hg against a background MABP of 33 mm Hg would certainly be considered important.

It is our frequent observation that administration of surfactant can provoke significant fluctuations in blood pressure which may be overlooked when examining mean changes alone.

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- 1 Saliba E, Nashashibi M, Vaillant M-C, et al. *Arch Dis Child* 1994; 71: F174-8.
- 2 Bass C, Badger P, McIntosh N. Mary 3 - a new generation computerised neonatal monitoring system. In: Lafeber HN, ed. *Fetal and neonatal physiological measurement*. Amsterdam: Elsevier Science Publishers, 1991: 187-90.

Dr Grantly Dick-Read

EDITOR,—Grantly Dick-Read's contribution to obstetrics was not limited to the labour ward.¹ His books shifted the emphasis in antenatal education from mothercraft to preparation for childbirth, with its emphasis on physiology and informed choice. These, together with the antenatal classes developed by his second wife, Jessica Bennett, are the basis of most antenatal preparation today.

In 1956 a group of mothers influenced by Dick-Read's work formed a charity to