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Dr Greenough comments:

We are grateful to Devlieger *et al.* for showing interest in our demonstration that Head's reflex can be provoked by intermittent positive pressure ventilation in very preterm babies. We have now studied in detail the stimulating and moderating factors of this reflex in 40 ventilated preterm babies (a preliminary report was published in 1982¹).

In summary, augmented inspirations were seen only in neonates ventilated at frequencies less than or equal to 15 per minute. Although this reflex was seen at all the gestational ages studied (24–36 weeks) it could not be elicited after the fifth postnatal day. The frequency of occurrence of the reflex was inversely related to the dynamic compliance, as was the ventilator pressure necessary to stimulate this 'paradoxical response'. It always occurred early in ventilator inflation, within 0.2 seconds from the onset, and 'provoking' ventilator volume was remarkably similar in all babies when related to bodyweight— 5.72 ± 1.1 ml/kg (mean $\pm$ SD). Babies who showed a higher frequency of this reflex than might have been expected from their lung compliance, appeared to benefit by requiring shorter periods of ventilation. In consequence any technique which could enhance the elicitation of this reflex should improve ventilation of such babies.

These studies show that the way in which the baby's spontaneous respiration interacts with the respirator is very important. Babies are not always passive recipients of ventilation, nor do they consistently fight the ventilator. These phenomena deserve to be studied in more depth if we are to improve our knowledge and techniques of neonatal ventilation.

We thank Dr Poulton for her comments, during none of the reported recordings was there any intrapleural air remaining on the chest x-ray film.

References

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Transient pseudo-precocious puberty by probable oestrogen intake in 3 girls

Sir,

I was interested to read this account but I would dispute the view that the ingestion of an unidentified oestrogen was probably the cause of transient pseudo-precocious puberty. The clinical features in all 3 girls would be consistent with those caused by a follicular cyst of the ovary which had undergone spontaneous rupture, thus leading to withdrawal bleeding and low plasma oestradiol values at the time of investigation. Such cysts may be freely mobile and very difficult to detect on clinical examination. However, they can be readily demonstrated by sonography, a technique which is useful in the assessment of female precocious puberty.

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Guidance of ventricular tap by ultrasound

Sir,

The interesting article of Levene deals with the advantage of ventricular punctures by ultrasound. We use a mechanical sectorscanner (ADR-Kranzbühler) in our department. It is fitted with a short-focus 3 MHz transducer. An adaptor is attached to the head which allows a needle to be directed obliquely in the ultrasound field. During the puncture the needle tip is continuously monitored on the TV screen as it penetrates into the tissues. Before the puncture both the transducer head and the adapter are

Fig. 1 Schematic representation of a coronal cross-section of the brain. TV screen is covered with a transparency, delineating the ultrasound field and the puncture needle trajectory with distance markings.

Fig. 2 Coronal cross-section: dilated lateral and third ventricles; the needle is visualised, penetrating the right lateral ventricle (arrow).

immersed in an antiseptic solution (HAC 5% in alcohol) for 10 minutes. The transducer is positioned on the great fontanelle so as to obtain coronal cross-sections. In this position the tip of the needle penetrates the skin at the lateral margin of the fontanelle. As the needle path and the ventricular structures are visualised on the screen (Fig. 1), the needle is accurately directed into a selected area of a lateral ventricle (Fig. 2). When the ventricle is reached, the stylet is removed and ventricular fluid is obtained.

As the puncture is performed from beside the transducer, the distance between the lateral edges of the fontanelle has to be at least 2 cm. Using this method of guided ventricular tap, the puncture is performed in the scanning plane. Not only can the needle be guided accurately but its penetration through the brain into the ventricle is continuously monitored. With this method adjustment of the direction of the puncture is no longer necessary.

We are convinced that ultrasonic guidance of ventricular punctures will make the procedure safer and will be more widely applied in the near future.

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Percutaneous alcohol absorption and skin necrosis in a preterm infant

Sir,

It is with interest that we read this case report,¹ since during the last year we have had 5 infants with similar

problems. Each was under 1000 g birthweight and each developed evidence of skin necrosis about 15 to 30 minutes after umbilical artery catheterisation. Two such babies weighing 720 and 900 g subsequently died (Figure).

Figure Two preterm babies showing skin necrosis.