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Dr Bessho comments:

I do not deny the importance of information about the height and its velocity before the onset of acute lymphoblastic leukaemia and the possibility that height at diagnosis may be a function of growth enhancing effect of possible growth factor(s) and growth suppressing effect of the disease (acute lymphoblastic leukaemia). It is worthwhile to confirm Dr Berglund’s finding as a phenomenon with a larger scale study using an appropriate control.

I do not think, however, that this kind of study could clarify the possible role of growth factor(s) on leukaemogenesis. No one can solve single equations with two or more variables. Obviously, other kinds of studies are required for this purpose. Therefore, I carefully avoided making the statement that growth hormone had no role concerning leukaemogenesis.

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**References**


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Congenital anomalies associated with hypothyroidism

Sir,

The report by Bamforth and colleagues of a high incidence of various extrathyroidal abnormalities associated with congenital hypothyroidism detected by neonatal screening is of interest as it could throw new light on the aetiology of these congenital malformations. Such an association had been suggested in infants with congenital hypothyroidism detected on the basis of clinical signs before the era of screening but has not been reported in large series of hypothyroid infants detected by screening.

In a series of infants similar to the one of Bamforth et al we could not confirm their findings: since the introduction of neonatal thyroid screening in Belgium in 1974, our own centre has screened 125 257 infants and has detected 41 infants with persistent primary hypothyroidism—that is, an incidence of 1/3055. Only one of them had associated anomalies: this girl was born after a normal pregnancy of 38 weeks’ gestation, with biological signs of severe congenital hypothyroidism (serum thyroid stimulating hormone at diagnosis 100 mU/ml and thyroxine 69 nmol/l). Thyroid scintigraphy showed a lingual thyroid gland. A colic duplication, suspected by antenatal echography at 33 weeks’ gestation, was confirmed by operation on day 7. On day 17 she had a second abdominal operation for a hypertrophic pyloric stenosis. Further history has been uneventful.

This association could be explained by a simple embryological mechanism as the development of the thyroid gland (formation and migration between 16th and 50th day of fetal life) and the gut (formation and rotation of the umbilical loop between 21st and 42nd day) both occur early in the fetal development.

The question arises as to whether the results reported by Bamforth et al could represent the consequences of local genetic or environmental factors, or both. As suggested by the authors, this point deserves further investigation.

**Endotracheal suction techniques in the neonate**

Sir,

Endotracheal suction of the ventilated neonate is often performed during neonatal intensive care. It has many side effects, including hypoxia, increased blood pressure and cerebral blood flow velocity, 1 and atelectasis. 2 In an attempt to reduce side effects many neonatal units have developed special procedures to achieve efficient suction in the shortest possible time. In one such technique the endotracheal tube suction catheter is attached to a mucus extractor and suction applied by the nurse rather than by the traditional wall mounted vacuum source with a gauge.

We investigated the pressures generated by this technique. The patient end of a mucus extractor was attached directly to a water manometer. Four doctors and six trained experienced nurses were then asked to apply
suction without being able to see the pressures generated. When asked to ‘suck out vigorously’ the maximum pressure achieved ranged between 84 and >250 cm H₂O, median 147 cm H₂O. Each individual was able to sustain his or her maximum pressure for approximately five seconds in the closed system, which allowed no gas flow once peak pressures were achieved.

Each individual was informed of his maximum and then asked to suck at a pressure of 20 cm H₂O, still blind to the manometer readings. The pressures generated ranged between 27 and 107 cm H₂O, median 43.5 cm H₂O. Participants then practised sucking out to 20 cm H₂O while watching the manometer before repeating the suction blind. They achieved pressures ranging from 9 to 52 cm H₂O, median 18 cm H₂O. None could maintain a constant pressure for more than two seconds in this situation.

We therefore conclude that endotracheal suction through a mucus extractor is inadvisable. Without a gauge certain individuals generated very high negative pressures when sucking vigorously. These high pressures could result in atelectasis and profound circulatory disturbances. At lower pressures, the variation in suction from second to second rendered suction inefficient and could lead to inadequate maintenance of the airway.

References

1 Perlman JM, Volpe JJ. Suctioning in the preterm infant: effects on cerebral blood flow velocity, intracranial pressure, and arterial blood pressure. Pediatrics 1983;72:329-34.


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Haemophilus influenzae type b meningitis resistant to ampicillin and chloramphenicol

Sir,

Guiscafré et al report two cases of meningitis due to Haemophilus influenzae type b resistant to ampicillin and chloramphenicol. They comment on the recent emergence of such strains and recommend that third generation cephalosporins such as cefotaxime or latamoxef should be considered the drugs of choice in the treatment of such cases.

We have reported a 3 month old infant with H. influenzae type b meningitis and ventriculitis who failed to respond to high dosage of chloramphenicol, ampicillin, and latamoxef in succession but whose infection resolved promptly with the addition of rifampicin. We consider that rifampicin should be one of the drugs of choice in haemophilus meningitis not responding to chloramphenicol and ampicillin, as resistance is rare and speed essential.

References


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Royal Manchester Children’s Hospital
Endotracheal suction techniques in the neonate.

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Arch Dis Child 1986 61: 1147-1148
doi: 10.1136/adc.61.11.1147-b

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