Fig. 2 CO_2 concentration in expired gases of a 2.5 kg newborn infant; flow rate 3.3 l/min.

group comprised mixed referrals to his unit; our patients were term mature infants.

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Nonhormonal case of adrenal cortical carcinoma

Sir,

Further to the two articles by Marsden *et al.* and Visconti *et al.* regarding adrenal carcinoma in infants (*Archives*, 1978, 53, 341 and 342) may we add the following account of a child with this extremely rare condition.

A 17-month-old white girl was admitted with a 20-day history of malaise, pallor, and high fever (39°C). She was born after a normal pregnancy and delivery, to a 25-year-old gravida 2, para 2 woman. Physical examination on admission showed anaemia; both liver and spleen were 2 cm below the costal margins. No signs of precocious puberty were present, and the clitoris was not enlarged. Blood pressure was normal.

Hb was 7.8 g/dl, red blood cells being hypochromic; ESR 90 mm in the 1st hour; serum iron $28 \mu\text{g}/100 \text{ ml}$ ($5 \mu\text{mol/l}$), TIBC $275 \mu\text{g}/100 \text{ ml}$ ($49 \mu\text{mol/l}$). Urine analysis normal. Blood and urine culture negative. Urinary VMA $6.2 \text{ mg}/24 \text{ h}$ (normal 0.6-7). Bone marrow aspirate showed good cellularity with active myelopoiesis. Blood chemistry—including total protein, bilirubin,

sugar, urea, cholesterol, electrolytes, and uric acid was normal. Chest x-ray normal.

Four days after admission the patient developed redness and oedema of both eyelids, and on the left frontal region. At that time we also found a palpable lobular mass 6 cm below the right costal margin. Skull x-ray revealed a well defined osteoporotic lesion corresponding with the mass in the left frontal region. A second x-ray of the skull 3 days later showed at the same site a picture of osteolysis, and an osteolytic lesion of the left humerus was also present. Intravenous pyelogram showed the right kidney to be displaced downwards. Urinary 17-hydroxysteroids were $0.9 \text{ mg}/24 \text{ h}$ ($3.1 \mu\text{mol}/24 \text{ h}$) (normal for age 1-3.5 $\text{mg}/24 \text{ h}$; $3.5-12.1 \mu\text{mol}/24 \text{ h}$), and 17-ketosteroids were zero. Plasma cortisol was $5 \mu\text{g}/100 \text{ ml}$ (138 nmol/l) in the morning and $4.5 \mu\text{g}/100 \text{ ml}$ (124 nmol/l) in the evening.

Complete excision of the tumour of the right adrenal was achieved surgically. It was covered by a thin capsule, and measured $12 \times 8 \text{ cm}$. The cut surface was reddish-brown and showed areas of recent and old haemorrhage and evidence of necrosis. Histologically, there were cells with pleomorphic nucleus and a variable amount of cytoplasm, which confirmed adrenal cortical carcinoma. Postoperative chemotherapy with adriamycin was unsuccessful and the patient died 2 months later. Urinary 17-hydroxysteroids, 17-ketosteroids, and plasma cortisol, measured 10 days after surgery, were within normal levels.

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Effect of storage and heat on antimicrobial proteins in human milk

Sir,

The paper by Evans *et al.* (*Archives*, 1978, 53, 239) confirms other work on the temperature sensitivity of human milk proteins (Ford *et al.*, 1977; Gibbs *et al.*, 1977). Some of their conclusions deserve comment.