Discussion

This patient's low temperature seemed incompatible with her moderate exposure to cold, and I believe that her hypothermia was directly attributable to Wernicke's encephalopathy. The cerebral lesions in this disease are predominantly in the hypothalamus, which is concerned in thermoregulation. Clinical evidence suggests that hypothalamic lesions can induce spontaneous hypothermia,¹ though there are no studies of thermoregulation in Wernicke's encephalopathy itself. Koeppen,² Victor *et al*,³ Philips and Smith,⁴ and Ackerman⁵ have described hypothermia in association with Wernicke's encephalopathy, but the rarity of this complication is emphasised by Victor's study, in which only two out of 245 patients with Wernicke's encephalopathy had hypothermia. In many of the earlier cases described hypothermia was mild (35-36.6°C) and a coincidental finding. Profound hypothermia is an unusual presentation of Wernicke's encephalopathy, and by masking the classical signs and symptoms may lead to delay in diagnosis, as in this patient. At worst, the patient may die and the diagnosis be made post mortem.³ Our patient had begun to improve before receiving thiamine but in other cases early treatment could be life-saving. Hence thiamine is indicated in any alcoholic developing or presenting with severe hypothermia.

I thank Dr D H A Boyd for permission to report on a patient under his care.

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Benign intracranial hypertension after withdrawal of topical steroids in an infant

Although there have been numerous reports of the potential hazards and of the actual biochemical abnormalities induced by topical steroids, there have been few clinical reports of adverse systemic effects.¹ There appears to have been one report of benign intracranial hypertension occurring during topical steroid treatment.² Although this condition is regarded as benign, some patients develop severe visual loss. The case reported here describes the development of benign intracranial hypertension after stopping potent topical steroid treatment which had been limited to the napkin area.

Case report

A boy aged 7 months was admitted with a history of 24 hours' drowsiness, irritability, and vomiting. During this period the mother had noted that the anterior fontanelle was bulging. Previously he had been quite well and developing normally. Since the age of 3 months a persistent napkin rash had been treated regularly with 0.1% betamethasone -17- valerate ointment. The mother had not been aware that it should be used sparingly, and in her own words had "tended to plaster it on" at each napkin change. The 0.1% betamethasone -17- valerate ointment had been prescribed in 100-g quantities. A total of 300 g had been used up over three months until one week before admission, when it was stopped completely. In the week preceding admission he had had no medication.

On admission he was ill looking and very fretful. There were no Cushingoid features. The weight was 6.6 kg (tenth centile) and the head circumference was 43.5 cm (just below 50th centile). The temperature was normal. The anterior fontanelle was tense and bulging. The fundi were normal and there were no other abnormal neurological signs. General examination showed normal features except for oral thrush and a red dry scaly rash confined to the napkin area. The results of full laboratory examinations on

blood and spinal fluid were normal, while the skull x-ray film showed splaying of sagittal and occipital sutures. The EEG was normal.

The anterior fontanelle tension became less day by day, and the boy was discharged home after five days—when he was quite well, the anterior fontanelle tension was almost back to normal, and the results of a full neurological examination were normal. The only treatment he received was 0.1% betamethasone -17- valerate cream to the napkin rash for the first two days of admission, this was then changed to Nystatin cream as *Candida albicans* had been grown from the napkin area. At follow-up a week after discharge the anterior fontanelle tension was normal. A repeat skull x-ray film eight weeks after admission showed that the sutures were back to normal. Follow-up at the age of 19 months showed normal development and the head circumference remained on the 50th centile.

Discussion

In children intensive treatment with 0.1% betamethasone -17- valerate ointment can significantly suppress the hypothalamic-pituitary-adrenal axis function.¹ I suggest that in this boy enhanced absorption of 0.1% betamethasone -17- valerate ointment probably occurred because of the liberal application of topical steroid and the napkin acting as an occlusive dressing. The sudden onset of symptoms and signs of raised intracranial pressure six days after stopping topical steroid treatment is similar to the clinical presentation described in cases of benign intracranial hypertension precipitated by withdrawal of systemic steroids.³

The napkin area is a vulnerable area for systemic absorption of topical steroids. Hence prescriptions should be for the smallest amount compatible with effective treatment, the weakest preparation which will control the disease being the ointment of choice.

I thank Dr John Wilson and Dr Richard Wilson for their advice and help.

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Oxytocin and neonatal jaundice

It has been stated that jaundice in newborn infants has reached epidemic proportions in recent years.¹ Ghosh and Hudson² associated this increase with oxytocin. Chalmers *et al*³ demonstrated this effect whether oxytocin was given to initiate labour or to accelerate labour which had already started; they postulated that if there is an association between neonatal jaundice and oxytocin it may be due to a toxic effect of synthetic oxytocin.

The present study was designed to establish whether oxytocin infused during labour that has already started affects bilirubin metabolism in the newborn. A policy of active management of labour results in about half all primigravidae receiving oxytocin during labour in this hospital.⁴ In contrast, a policy of selective induction of labour makes the use of oxytocin to initiate labour comparatively rare.⁵

Patients, methods, and results

A prospective study was conducted on 200 consecutive first-born infants, whose birth weight was over 2500 g and gestation over 37 weeks. The serum bilirubin concentration was measured in capillary blood, obtained on the fourth day in conjunction with the Guthrie test, by a direct reading bilirubinometer (American Optical Corporation). Method of delivery and type of infant feeding were recorded as well as oxytocin infusion. Three patients received oxytocin to initiate labour; they were excluded from the study, which was confined to those who had started labour spontaneously. None of the remaining 197 patients received more than 10 units of oxytocin.⁴ A total of 109 patients received oxytocin and 88 received no oxytocin. The results (table) show that the infusion of 10 units of oxytocin during labour has no significant effect on mean bilirubin levels on the fourth day. The method of delivery and type of infant feeding did not influence the result (table). The

Mean bilirubin levels ($\mu\text{mol/l}$) on day 4 in all patients and related to method of delivery and infant feeding

	Received oxytocin		Did not receive oxytocin		P
	No	mean	No	mean	
All patients ..	109	80.049	88	83.043	0.8
Normal delivery ..	77	82.679	61	89.843	0.6
Operative delivery ..	30	78.147	18	64.125	0.4
Caesarean section ..	3	36.479	8	73.744	0.5
Bottle-fed ..	75	81.304	62	74.975	0.6
Breast-fed ..	35	77.779	25	103.010	0.2

Conversion: Traditional to SI units—Bilirubin: $1 \mu\text{mol/l} \approx 0.06 \text{ mg/100 ml}$.

serum bilirubin exceeded $170 \mu\text{mol/l}$ (10 mg/100 ml) in 17 cases; eight had received oxytocin and nine had not.

Discussion

This study shows that infusion of oxytocin during labour does not affect mean bilirubin levels or increase the incidence of hyperbilirubinaemia. Hence oxytocin does not have a deleterious effect on bilirubin metabolism in the newborn. Any increase in the incidence of neonatal jaundice associated with oxytocin is likely to be due to the lower mean gestational age which is an inevitable consequence of induction of labour.

I acknowledge the advice of Professor Kieran O'Driscoll in the execution of this study, and Dr Eamon Henry (Economic and Social Research Institute) in the statistical planning, and thank Dr Declan Meagher for permission to study patients under his care.

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Platelet and fibrinogen survival in acute promyelocytic leukaemia

Most authors attribute the haemorrhagic diathesis in acute promyelocytic leukaemia (APML) to accelerated consumption of clotting factors and platelets.¹ Promyelocytes in APML contain high levels of "tissue factor,"² which when liberated may initiate disseminated intravascular coagulation (DIC). As an expected corollary of DIC would be a reduced plasma half life of fibrinogen and platelets; we report the results of measuring fibrinogen and platelet survival in a case of APML. Although there was reduced life span of circulating fibrinogen, platelet survival fell within the normal range.

Case report

A 25-year-old woman presented with spontaneous bruising of one week's duration. She had no further complaints and on clinical examination, apart from generalised ecchymoses, there was no abnormality. The peripheral blood showed haemoglobin 10.6 g/dl ; WBC $2.5 \times 10^9/\text{l}$ ($2500/\text{mm}^3$) (neutrophils 43%; lymphocytes 30%; monocytes 2%; eosinophils 2%; basophils 2%; blast cells 1%; promyelocytes 30%; myelocytes 8%); platelet count $23 \times 10^9/\text{l}$ ($23000/\text{mm}^3$). The marrow was infiltrated with abnormal promyelocytes, many containing Auer-like rods. The coagulation findings were (normal values in parentheses): fibrinogen 0.39 g/l ($1.5\text{--}4.0$); euglobulin lysis time (ELT) 20 min (> 120); partial thromboplastin time (kaolin) 48 s (36); fibrin degradation products (FDPs) $80\text{--}160 \text{ mg/l}$ (< 10); thrombin time 16 s

(11); one-stage prothrombin time $1.4/1$. Prothrombin consumption index and plasminogen were normal. No abnormal fibrinogens were detected, and the ethanol gelation test was negative. Before treatment the patient was given eight donor units of platelets, and remission was induced with daunorubicin and cytosine arabinoside. After induction, no further treatment was given for five months. Relapse was heralded by recurrence of bruising and a low plasma fibrinogen level (0.5 g/l), and there was a temporary but partial response to further daunorubicin and cytosine arabinoside. Despite changing chemotherapy the patient steadily deteriorated, dying ten months after presentation with a presumptive diagnosis of cerebral haemorrhage. Necropsy was not performed.

A month before death, before the change of chemotherapy, we measured fibrinogen and platelet survivals. At this stage the platelet count was $165 \times 10^9/\text{l}$ ($165000/\text{mm}^3$) and the plasma fibrinogen 1.25 g/l . The platelet count remained stable for the next three weeks but the plasma fibrinogen concentration fell to 0.29 g/l within four weeks. In vivo ^{125}I -labelled fibrinogen survival³ was significantly reduced with a mean life span of 23 h (half life in eight control subjects 80–120 h). ^{51}Cr labelled autologous platelet survival⁴ was normal, the mean life span being 7.3 days (normal 5.5–10.3) (see figure).

Platelet survival in patient with acute promyelocytic leukaemia. Mean life span of the platelets was 7.3 days (normal 5.5–10.3).

Discussion

Although accelerated fibrinogen disappearance in untreated or relapsed APML is well documented,¹ platelet survival has not been reported. The normal platelet survival in this patient conflicts with the stated view that APML is constantly associated with DIC and platelet consumption.¹ Our result could be explained by primary fibrinolysis, and the role of the latter in some cases of APML is suggested by the improvement which has followed treatment with epsilon-aminocaproic acid.⁵ Such a diagnosis would be supported in this patient by the short ELT, raised FDPs, and negative ethanol gelation test at presentation.

We propose that primary fibrinolysis has a role in this disorder. Further investigation is required to determine its magnitude, whether it takes place only in a distinct subpopulation of patients with APML, or whether it forms a prelude to the onset of overwhelming DIC.

We are indebted to Dr S H Davies for allowing us to describe this patient who was under his care.

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