Key messages

- This study examined the putative herpetic aetiology of oral ulcers indirectly by recording the possible preventive effect of the antiherpetic drug acyclovir
- Oral ulcers were found in more than half of patients with acute myeloid leukaemia during remission induction therapy
- The incidence of herpes labialis, intraoral ulcers outside the soft palate, and acute necrotizing ulcerative gingivitis was greatly reduced by prophylaxis with oral acyclovir (800 mg by mouth daily) during remission induction therapy
- Intraoral ulcers on the soft palate were not associated with herpes virus infection

proportion of these ulcers in herpes simplex virus seropositive patients have a herpetic aetiology. Acyclovir prophylaxis must therefore be considered for all herpes simplex virus seropositive patients with acute myeloid leukaemia during remission induction therapy. A possible role of primary herpetic oral infections in the aetiology of oral ulcers in these patients could not be evaluated in this study because herpes simplex virus seropositivity was among the inclusion criteria. Further studies are needed to investigate whether the reduction in the rate of intraoral ulcers also results in lower rates of fever and systemic infection in these patients and to evaluate whether the use of saliva substitutes might decrease the occurrence of ulcers on the soft palate.

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Jaundice in babies: implications for community screening for biliary atresia

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Although prompt referral of babies with biliary atresia ensures early surgery and improves outcome,¹ late referral persists in the United Kingdom, leading to calls for systematic screening of babies with neonatal jaundice persisting beyond 14 days.² This would entail reviewing the baby, establishing whether the stool is pigmented, testing urine for bilirubin, and measuring blood concentrations of conjugated and unconjugated bilirubin.^{2,3} To evaluate the feasibility of systematic screening, we ascertained the prevalence of (a) jaundice in babies aged 2, 4, and 6 weeks, and (b) dark urine or pale stools as reported by the parents or a health visitor. We also established how often stools or urine of jaundiced babies were noted by health visitors at their first visit to gauge the effect on workload.

Subjects, methods, and results

In Solihull Health District health visitors examine all babies between 12 and 14 days of age. We recorded jaundice at this primary visit for convenience of clinical practice. Over six months the health visitors noted

name, date of birth, date of examination, method of feeding, and presence of clinical jaundice (defined as yellow skin pigmentation). If jaundice was present they noted the colour of the eyes, stools, and urine and whether the colour of stools and urine was based on their observation or a parental report. Further reports were submitted at 4 and 6 weeks if the babies were still jaundiced. The study excluded babies still in hospital but included those who had moved into the district in

Detection of jaundice by health visitors at primary visit and when babies were aged 4 and 6 weeks. Values are numbers of babies unless stated otherwise

	Primary visit (12-14 days)	4 Weeks	6 Weeks
Proportion (%) of babies with reports	985/1170 (84)	140/175 (80)	22/31 (71)
No of babies with clinical jaundice	175	31	7
Prevalence of jaundice per 100 live births (%)	15	2.6	0.6
<i>Factors associated with clinical jaundice</i>			
Colour of sclera:			
Yellow	78	—	—
White	79		
Not recorded	18		
Feeding pattern:			
Breast	101	27	6
Bottle	62	4	1
Mixed	7		
Not known	5		
Sex:			
Male	112	23	7
Female	63	8	
Proportion male	0.64	0.74	1
(95% confidence interval)	(0.57 to 0.71)	(0.58 to 0.89)	

the first 14 days of life. Denominator data were taken from the national child health computer system.

From 1 September 1992 to 25 February 1993, 1170 live babies were born to the residents of Solihull Health District or had moved into the district in their first 14 days of life. The table shows the prevalence of jaundice by age. At the primary visit 175 babies were thought to be jaundiced. Only 78 babies had yellow eyes. Stool was seen in seven cases, urine in 10, both in nine, and neither in 119; the report was incomplete in 30. Dark urine was reported by the parents in three cases, one baby also having pale stools; pale stool was reported by the parents in three and by a health visitor in one. All these babies were well and free of jaundice at 6 weeks.

Seven babies were still jaundiced at 6 weeks, six of whom were breast fed. At 1 year the bottle fed baby had mildly raised transaminase activities and one baby was found to be heterozygous for α antitrypsin deficiency, but none had clinically significant liver disease.

Comment

Although 175 babies were reported as being clinically jaundiced at the primary visit, only 78 had yellow eyes, suggesting that visual screening for hyperbilirubinaemia may yield many false positive

results. The prevalence of persistent jaundice was higher than might have been predicted.⁴ This increase may be due to differences in the prevalence of breast feeding (58% of the mothers breast fed) or a genuine secular trend—others have noted an increase in the prevalence of neonatal jaundice.⁵ We found prolonged neonatal jaundice to be commoner in boys, as reported previously,⁵ which may be owing to a difference in maturity of hepatic bilirubin conjugation.

Defining clinical jaundice as yellow would lead to around 15% of babies requiring blood and urine sampling, representing a major impact on workload for health visitors, laboratories, and medical staff. Further investigation is needed to determine the cost-benefit characteristics of the suggested screening programme and other strategies.

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Ability of hospital doctors to calculate drug doses

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See editorial

The contents of most drug ampoules are given as their mass concentration (mg or μ g/ml), but a few drugs are traditionally given as a dilution or percentage concentration—for example, 1:1000 or 1% respectively. Many drugs used in resuscitation and acute medical

emergencies are labelled in this way—for example, adrenaline 1:1000 and sodium bicarbonate 8.4% solution.

A survey showed that many junior doctors could not calculate the mass of lignocaine in ampoules of different concentrations.¹ We investigated further the ability of hospital doctors to convert between mass concentrations, dilutions, and percentage concentrations. We also asked which convention they preferred and the adequacy of their teaching on calculating drug doses.

Subjects, methods, and results

We asked 150 teaching hospital doctors of all grades and from a representative spread of the major specialties to complete a written questionnaire comprising five questions about drug dilution and concentration (see table). One of us (SR) was present while the form was completed. Ten minutes was allowed. Unanswered questions were classified as "don't know" answers.

Completed forms were received from all doctors. The table shows the results. Questions 3 and 4 were the most difficult, having been answered correctly by only around a third of doctors. Proportionally more consultants and senior registrars than doctors in junior grades answered these questions correctly—for example, 58% (11/19) of consultants but only 4% (1/24) of preregistration house officers answered question 3 correctly.

Over two thirds of doctors (117) said that they would prefer ampoules to be labelled with the mass concentration rather than the dilution or percentage concentration. Thirteen expressed no preference, and nine thought that two conventions should be used. Of the 11 doctors who were satisfied with the current labelling arrangements, six were unable to answer any of the questions correctly and only two gave five correct answers.

Forty two doctors considered that they had received adequate teaching on calculating doses, but only 19 answered all the questions correctly.

Answers to questions on drug doses. Values are numbers (percentages) of hospital doctors

Question	Right	Wrong	Don't know
1 How much noradrenaline (in mg) is there in 4 ml of a 1:1000 solution?			
All doctors (n=150)	76 (51)	37 (24.5)	37 (24.5)
Physicians (n=51)	22 (43)	14 (27)	15 (30)
Surgeons (n=70)	26 (37)	22 (31.5)	22 (31.5)
Anaesthetists (n=29)	28 (97)	1 (3)	0
2 How many mg of lignocaine are there in a 10 ml ampoule of lignocaine 1%?			
All doctors (n=150)	68 (45)	49 (33)	33 (22)
Physicians (n=51)	20 (39)	16 (31)	15 (30)
Surgeons (n=70)	19 (27)	33 (47)	18 (26)
Anaesthetists (n=29)	29 (100)	0	0
3 How many mmol of sodium bicarbonate are there in 100 ml of an 8.4% solution?			
All doctors (n=150)	50 (33)	40 (27)	60 (40)
Physicians (n=51)	17 (33)	12 (24)	22 (43)
Surgeons (n=70)	8 (11)	26 (37)	36 (51)
Anaesthetists (n=29)	25 (86)	2 (7)	2 (7)
4 How many mg of adrenaline are there in a 10 ml ampoule of 0.25% bupivacaine with adrenaline in a 1:200 000 solution?			
All doctors (n=150)	46 (31)	39 (26)	65 (43)
Physicians (n=51)	8 (16)	13 (25)	30 (59)
Surgeons (n=70)	16 (23)	19 (27)	35 (50)
Anaesthetists (n=29)	22 (76)	7 (24)	0
5 How many ml of a 1:10 000 solution would you need to obtain 1 mg of adrenaline?			
All doctors (n=150)	92 (61)	19 (13)	39 (26)
Physicians (n=51)	32 (63)	5 (10)	14 (27)
Surgeons (n=70)	31 (44)	14 (20)	25 (36)
Anaesthetists (n=29)	29 (100)	0	0