

HOW TO SAVE TIME AND MONEY IN NEONATAL JAUNDICE

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Increasing numbers of babies are being discharged early from the maternity unit. It is hardly surprising that jaundiced babies are now being seen more frequently in the community. This has led to a great surge in the number of 'heel prick bilirubins' being done by community midwives. It will, therefore, come as a great relief to midwives, mothers, GPs and fundholders to hear that most of these bilirubin checks are unnecessary⁽¹⁾. Our current practice of treating jaundiced babies with phototherapy is based on very scant evidence⁽²⁾. The concern, of course, has been that unbound, unconjugated bilirubin crosses the blood/brain barrier, causing kernicterus, which leads to physical disability and sensori-neural deafness. The fact is, however, that there are no documented cases of kernicterus developing in an otherwise healthy term baby *in the absence of haemolysis* until the serum bilirubin level is over 500 micromols/l⁽³⁾. In other words, in the absence of haemolysis jaundice *per se* does not matter.

But how can the GP recognise haemolytic jaundice as opposed to physiological or breast milk jaundice? In practice, it should be quite easy, because haemolytic jaundice usually presents early (ie within the first 24 hours of life) and is generally associated with a positive Coomb's test. The exceptions to this are congenital spherocytosis and G6PD deficiency, both of which are pretty rare.

In *non-haemolytic* jaundice the only question which needs to be asked is "is the jaundice indicative of any pathology such as infection, hypothyroidism, metabolic disease or biliary atresia?" The simple answer is that if the baby is less than 14 days old, healthy and thriving with normal examination, then a search does not need to be made for a cause of the jaundice. The following practical points might make life easier still:

- jaundice starts on the face and works its way down the body
- if the arms and legs are involved it is likely to be at the 250 level, if it is down to the hands and feet then it is likely to be >300.
- jaundice within the first 48 hours of life is *not* normal and must be investigated
- jaundice after 14 days of age is *not* normal and must be investigated

- the bilirubin level will be inaccurate if the sample is haemolysed (falsely high) or left lying in bright light (falsely low)
- extra vigilance is required with non-Caucasian babies in whom the jaundice may not be so apparent. Haemolytic problems are more common in this group because of consanguinity and G6PD deficiency.

CASE REPORT

An urgent paediatric opinion was sought on a six-week old bottle-fed Caucasian baby in the Langdale valley, who was still jaundiced. He was otherwise healthy and thriving with normal examination. On direct questioning the mother reported that his urine was always yellow and his stools occasionally pale. Investigations showed:

- total bilirubin 174 micromols/l
- conjugated bilirubin 104 micromols/l
- urine contained bilirubin

He was referred to Manchester where investigations confirmed biliary atresia. Luckily surgical correction done at the uncommonly late of age 56 days was successful.

LEARNING POINTS

1. Jaundice above 14 days of age must be investigated
2. Conjugated (direct) bilirubin of >40 micromols/l or 15% of the bilirubin is abnormal and needs urgent investigation
3. The success of surgery in biliary atresia depends on surgical correction before 42 days of age

REFERENCES

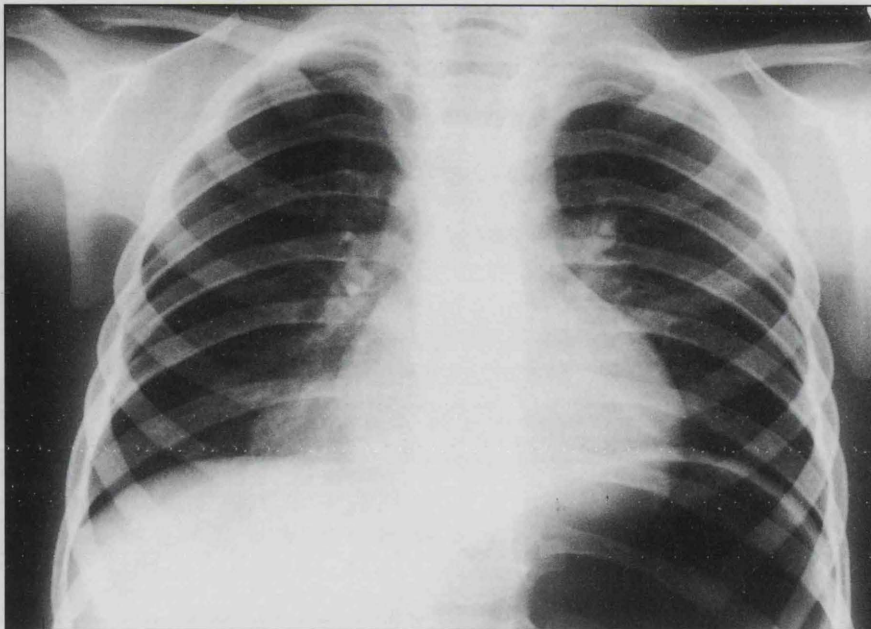
- 1 Hey, E Hot Topics MIDIRS Midwifery Digest (Mar 1995) 5:1
- 2 Hsia D Y-Y, Allen FH, Gellis SS, Diamond LK Erythroblastosis fetalis. VIII studies of serum bilirubin in relation to kernicterus New Engl J Med 1952;247:668-71
- 3 Maisels MJ, Newman TB Kernicterus occurs in fullterm, healthy newborns without apparent hemolysis (Abstract no 1419) Pediatric Research 1994;35(4):239A

AGE	<48 hours	2-10 days	>14 days	
			<ul style="list-style-type: none"> ● breast fed and thriving and healthy 	<ul style="list-style-type: none"> ● bottle fed ● not thriving ● not healthy
COMMENTS	<ul style="list-style-type: none"> ● abnormal 	Probably normal If baby healthy, thriving, normal examination, then do TSB only if jaundice involves limbs. Refer if TSB >350 If baby unwell, then refer	probably normal	abnormal needs referral
INVESTIGATIONS	<ul style="list-style-type: none"> ● Group & Coombs ● Hb and film ● TSB ● Exclude infection 	TSB	<ul style="list-style-type: none"> ● TSB + conjugated bilirubin* ● Urine for bilirubin ● Ask about colour of stools ● Discuss result with hospital 	

**this needs bigger sample of blood and must be requested specifically on form*

MANAGEMENT OF JAUNDICED BABY

QUIZ



This longstanding abnormality was first noted as an incidental finding on a chest X-ray. A CT scan proved unhelpful in the evaluation. What pathology or tissue is shown and which imaging technique clinched the diagnosis? No treatment was required.

Case supplied by Dr P Gibson

Answer on page 265.