

Neonatal Haemorrhage and Vitamin K

There has been renewed interest in both early and late haemorrhagic disease of the newborn [1]. It is clear, however, that a bleeding diathesis may be the presenting feature of more serious underlying pathology especially if presentation is delayed. We report 3 infants born in a 1-month period presenting as haemorrhagic disease of the newborn. All were breast-fed and none had been given vitamin K.

Case 1

This infant was born by normal delivery at 37 weeks weighing 3.02 kg. He was admitted to the Baby Unit aged 3 days with a moderate unconjugated hyperbilirubinaemia (maximum 290 $\mu\text{mol/l}$) which resolved with phototherapy. He was readmitted aged 4 weeks following a small haematemesis. Laboratory results: prothrombin time 265 s (control 12 s), partial thromboplastin time 258 s (control 39 s), thrombin time 10 s (control 7 s). He was treated with fresh frozen plasma and vitamin K and the clotting studies rapidly returned to normal. He was readmitted 2 days after discharge after a vomit which contained altered blood. Clotting studies: prothrombin time 14 s (control 12 s), partial thromboplastin time 55 s (control 39 s), thrombin time 9 s (control 7 s). Further investigations revealed a low alpha-1-antitrypsin level (0.56 g/l), confirmed on repeat. His phenotype was subsequently found to be PiZZ.

Case 2

This boy was delivered normally at 42 weeks weighing 3.62 kg. He was admitted to the Baby Unit aged 3 days following a small haematemesis. Laboratory results: prothrombin time 3 min (control 12 s), partial thromboplastin time 2 min (control 39 s), thrombin time 13 s (control 7 s). He was treated with fresh frozen plasma and vitamin K and again the clotting studies returned to normal. Aged 8 days he had a coffee ground vomit, the clotting studies were marginally abnormal and he was again treated with fresh frozen plasma and vitamin K. Extensive investigation failed to reveal any abnormality and he remains well.

Case 3

This girl was born at term weighing 2.98 kg. She was admitted aged 11 days following a severe haematemesis and bleeding from the umbilical stump. Clinically it was felt that treatment with fresh frozen plasma and vitamin K was appropriate. Clotting studies after treatment: prothrombin time 12 s (control 12 s), partial throm-

boplastic time 49 s (control 38 s), thrombin time 10 s (control 7 s). Studies before therapy were unavailable due to technical error. She was noted to be mildly icteric and she was found to have a conjugated hyperbilirubinaemia. Further investigations suggested a diagnosis of biliary atresia which was confirmed at laparotomy.

Discussion

Vitamin K prophylaxis given to all breast-fed infants at birth should prevent haemorrhagic disease of the newborn entirely. There is still, however, debate as to the necessity of this blanket approach [2, 3]. There is certainly no documented evidence to support the claim that early administration of vitamin K is useful in preventing late disease [1, 4] and we contend such a claim is at best simplistic and worst potentially dangerous. Serious underlying pathology such as alpha-1-antitrypsin deficiency and biliary atresia can present as a bleeding diathesis and we would argue that late presentation of haemorrhagic disease of the newborn must be a diagnosis of exclusion with underlying pathology sought initially.

References

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