

ISSN : 2309-3234

TMSS MEDICAL COLLEGE JOURNAL

Volume 06, No. 06, January 2016



An Official Publication of TMSS Medical College, Bogra



TMSS Medical College Journal

January 2016

**An Official Publication
of
TMSS Medical College, Bogra**

TMSS Medical College Journal

Vol. 6, No. 1, January 2016

An Official Publication of TMSS Medical College, Bogra, Bangladesh

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Graphic Designer

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Printed by

TMSS Printing Press
Bogra, Bangladesh
e-mail: tmssprintingpress@gmail.com

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Case Report

Fatal Hemorrhagic Disease in a Newborn

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Abstract

Deficiency of Vitamin K remains a significant worldwide cause of neonatal morbidity and mortality. The objective of this case report is to create awareness among people and Doctors about the administration of vitamin K in newborn at early after birth. In this study I have reported a newborn presented with profuse per rectal fresh bleeding, melaena and blood stain vomiting at 3rd day of life, The baby improved with fresh blood and vitamin K. Routine prophylactic use of vitamin K should always be used to prevent HDN ("good public health practice"). Administration by intramuscular injection (0.5-1.0 mg) within 6 hours of birth is preferable. May be given orally As 3 doses spread over the first 4 weeks of life. A safe, inexpensive preventive procedure that should be mandatory Component of newborns care.

Key words: Hemorrhagic disease; Newborn; Vitamin K

Introduction

Hemorrhagic diseases of newborn can be defined as vitamin k deficiency related Bleeding. HDN is one of the most frequent bleeding disorders in infancy.¹ It is classified As early, classical and late onset disease according to the time bleeding occurs. Early HDN is diagnosed when the bleeding begins in the first 24 hours of postnatal period. Classical HDN occurs between 2 – 5 days of neonatal period and late onset disease can be seen during infancy. But predominantly at 4-8 weeks of life. It's incidence is 4-25/100000 birth in the western countries but as high as 25-80/100000 births in eastern countries.² Late hemorrhagic disease is diagnosed of bleeding occurring after 7th day of life with normal Platelet count, prolong prothrombin time (PT) and partial thromboplastine time (PTT), associated With stopping of bleeding and PT/PTT returning to normal after giving vitamin k.³

Vitamin K prophylaxis is recommended for all neonates to prevent hemorrhagic disease of the new born (HDN).⁴ Bleeding disorders in newly born infants were first described over 100 years ago. When Townsend reported 50 cases In 1894.⁵

Hemorrhagic Disease of newborn (HDN) also called vitamin K deficiency bleeding (VKDB).

VKDB is the name given to the occurrence of spontaneous bleeding in early days of life.⁶ Bleeding can occur from birth up to six month of life.⁷

Incidence of vitamin K deficiency bleeding in babies not receiving vitamin k at birth is 0.25% to 1.7 %.⁸ Vitamin K is essential for normal function of hemostasis.⁹ It is needed for the synthesis of Coagulation factors II, VII, IX, X.¹⁰ At birth vitamin k dependent factors are reduced to about 50% of normal adult values.¹¹ The disease is classified according to the age of onset, early (first 24 hours), classic (2-7 days of life) and late onset (8days to 6 months of life) disease.¹² Late onset disease occurs primarily in exclusively breast feed infants and associated with intracranial hemorrhage in about 50 % of the cases.⁵

Case Report

A male baby of 3 days old was brought to the Medical College Hospital with his mother. His mother reported that he had profuse per rectal bleeding and blood stained vomiting Since morning, gradually less active, pallor and that he was feeding poorly. Medical history Reveal an uncomplicated vaginal delivery at home after an

unremarkable pregnancy. At birth he was not given vitamin k. Growth, development and behavior had been completely normal since birth. He was exclusive breastfeed. He had no Convulsion and urine color normal clear. On clinical examination the baby was pale, no jaundice, No cyanosis, vitals are stable, anterior fontanel is normal, not bulged. Laboratory results are revealed Normochromic normocytic anemia (10.5 gm/dl), total WBC count (8.5 k/l) normal, Bleeding time (3.0m) normal, prothrombin time relative prolong (18 sec), INR 1.53, serum bilirubin (3.6 mg/dl) normal, C-reactive protein (CRP) normal. He was given 2 times fresh blood (20 ml/kg) transfusion and vitamin K (2mg). Gradually per rectal bleeding and blood stained vomiting stopped and baby become well and active. Vitamin K deficiency was therefore the working diagnosis for the coagulopathy. Late hemorrhagic disease is diagnosed of bleeding occurring after 7 day of life with normal platelet Count.

Discussion

Hemorrhagic of the new born can be present at any time up to 8 weeks after birth. HDN is rare disease with high mortality and morbidity.¹⁴ The new born in this case report developed HDN at 3rd day of life and got no vitamin K after SVD at home. Newborns have only 20 – 50% Of adult coagulation activity. Lack of vitamin k administration at birth, exclusive breast feeding, Chronic diarrhea and prolong used of antibiotics make them more prone to vitamin K deficiency Bleeding.¹³ Almost 2/3rd of the babies with late HDN present with serious intracranial bleeds leading. To high morbidity and subsequent mortality. Intracranial hemorrhage is the major cause of morbidity and mortality is reported in 14 to 50 % cases by various authors.¹⁵ Administering vitamin K to every new born at birth can impede

the disease. Which has a high morbidity and mortality.^{15,16} Oral prophylaxis of vitamin K is preventive against early and classical hemorrhagic disease. But parenteral administration of vitamin K is required for the late disease.^{17,18} Current recommendation for vitamin k prophylaxis are to give vitamin K to all newborns as a single intramuscular dose of 0,5 to 1mg(APP policy statement 2006). After these recommendations were implemented. The estimated incidence rate of late HDN fell to 0.07 to 0.25 per 100,000 infants.^{19,20,22} where the incidence of late HDN in infants not given vitamin K prophylaxis is reported to be 4.4 to 7.1 per 100,000 birth.^{20,21} Tulchinsky has reported the incidence of Hemorrhagic disease of the newborn in children (not received vitamin k prophylactically) as 2.5 to 17 percent per 1000 live births.²³ In Thailand the incidence was 35 to 72 per 100,000 live birth. In Israel in 1977 death related to HDN were 131 per 100,000 live births, declining to 31 per 100,000 in 1984 and 3 per 100,000 live births in 1988.²³

Conclusion

Vitamin K deficiency causing hemorrhagic disease of the newborn is rare Disease with high mortality and morbidity .Vitamin K deficiency bleeding is a preventable disease, which can lead to death or permanent brain damage. So that vitamin k needs to be administrated as a prophylaxis against hemorrhagic disease of newborn.

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