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Research Article

**A CROSS SECTIONAL STUDY ON THE HAEMORRHAGIC
DISEASE OF NEWBORN CHILDRENS**¹Iqra Matloob, ²Dr Muhammad Burhan Ud Din, ³Dr. Aiesha Qadeer¹Services Hospital, Lahore.²CMO, DHQ Hospital Sahiwal³House Officer, D.G Khan Medical College DG Khan**Abstract:**

Objectives: The purpose of this research is to assess the medical appearance of the LHDNB (late haemorrhagic disease of the newborn) and improvement in this matter after the management of the K1 vitamin.

Methodology: All the patients having age of more than 7 days, suffering with bleeding admitted in the children ward of Mayo Hospital Lahore. This study was carried out in the duration of one year from April 2017 to April 2018. Performa arrange for the collection of the required data. SPSS software version eleven was in use for the analysis of the data.

Results: There were 35 patients included in this research work. Subcutaneous was the most common place of bleeding followed by site of injection & oral site. The average age of the patients of this disease was one hundred and nine days. The minimum age of the patient was twenty eight days. Irritability, seizures, deprived reflexes & reduced feeding are the most common medical appearances. The recovery tie was less than twenty four hours after vitamin K in the case of most of the patients.

Conclusion: The outcome of the late haemorrhagic disease of the newborn is serious haemorrhage especially the haemorrhage in the CNS. The management of the Vitamin K1 at the time of birth present those serious difficulties.

Key Words: Vitamin, Ingestion, Newborn, vitamin, subcutaneous, seizure, reflexes, feeding.

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INTRODUCTION:

Vitamin K is soluble in fat and it is easily absorbed in the tract of GI in the availability of the salts of bile. The factors of coagulation 2, 7, 9 & 10 required vitamin K for their production. The factors have small half life period therefore, very low quantity of this vitamin accumulated in the body. Insufficient ingestion of this vitamin can produce the shortage in very small duration. PIVKA a type of protein induced in the non availability of V K are easily calculable & utilized as the identifier of the shortage of this vitamin. The most suitable term for HDN is the VKDB (vitamin K deficiency bleeding) [1]. In the past, all the complications of bleeding in the babies grouped in the discovery of the HDN. Now days, various methods are available for the precise diagnosis of the shortage of different factors, vitamin K deficiency bleeding is eminent from the other complications [2]. HDN is very common reason of the acquired haemostatic complication in the early childhood [3]. The occurrence of the LHDN in the countries of the east twenty five to eighty per hundred thousand births which is much higher than the countries of the west [4].

Vitamin K deficiency bleeding VKDB have the ability to occur at 3 time frames.

1. Early discovery of the disease within the twenty four hours after birth but it hard to happen so. It is associated with the medicine inference in the mother. This form of VKDB can be prevented with the supplementation of the mothers with this vitamin.
2. The classic start of this disease is two to seven days after birth in the babies who are breastfed
3. Late start of the disease occurs after one to two weeks of birth. Some of the risk factors are breastfeeding, hepatitis, diarrhoea, CF (cystic fibrosis) and shortage of the alpha-antitrypin. This is very serious than the previous two stages.

MATERIAL AND METHODS:

All the babies having more than seven days' age got admission in the children ward of Mayo Hospital Lahore suffering with bleeding were evaluated in this research work. This study was carried out in the duration of one year from April 2017 to April 2018.

The patients who were completing the described standard confirmed with the disease of LHDN.

* Bleeding started in the babies after seven day of age.

* There was no availability of thrombocytopenia.

* The smear assessment of the normal peripheral blood complied.

* PPT (Prolonged prothrombin time) and prolonged aPTT.

* Quick rectification of PTI or termination of bleeding after the administration of the vitamin K.

PIVKA (Protein induced in vitamin K absence) and amounts of the serum fibrinogen were not present, therefore, these were not considered necessary in the presentation of the patient. All patients provided with two milligrams of vitamin K and all the examinations carried out again after twenty four hours. The place of birth, the management of the vitamin K, history of feeding, diarrhoea, utilization of any antibiotics medical symptoms and other related information of the patients were gathered who were the part of this research work.

Exclusion standard

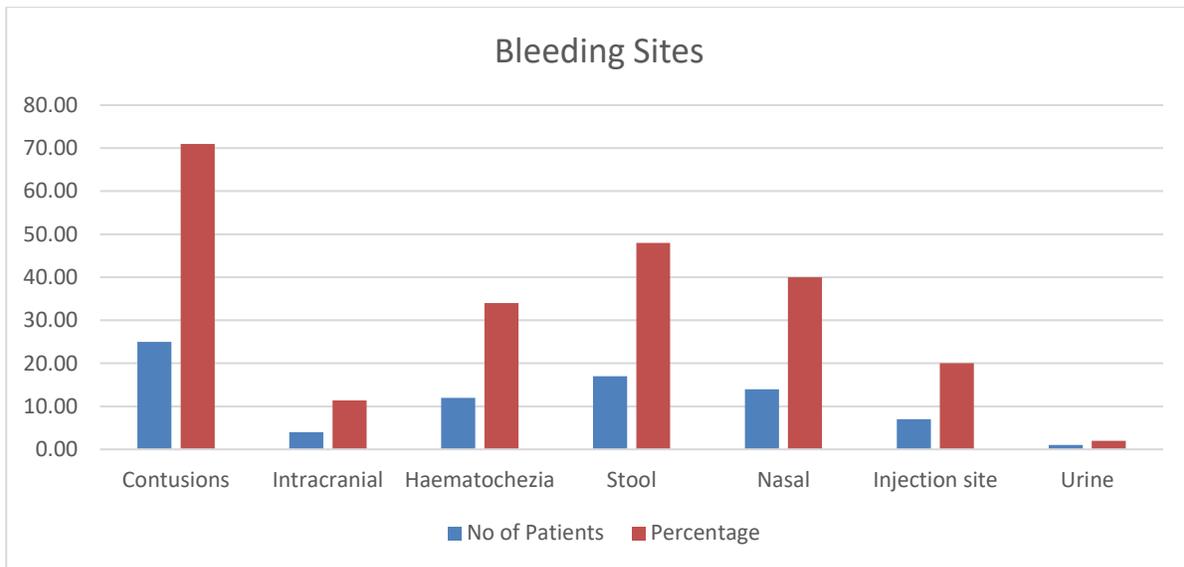
1. Patients suffering with icterus and disturbance of the liver enzymes.
2. Pt was not return to its normal position after the vitamin K single dose. They were found with some serious disease of liver.
3. The infants who got vitamin K before admission.
4. The Children who did not undergo coagulation tests before or after the treatment.

RESULTS:

LHDN was present in 35 infants as diagnosed. There were twenty four boys and eleven girls. Ten babies born in the clinics of whom six got this vitamin. All remaining born at houses or maternity home and they did not get any dose of this vitamin. No mother was under medication during the period of pregnancy. All thirty five infants were fed through breasts. The average age of the appearance was one hundred and nine days. There was no liver disease in all the infants. Mild to medium temperature was concluded in fifty percent patients as described in Table-2. Pallor was present in hundred percent patients. AF (Anterior fontanel) was present as tense & bulging in only 3 patients. Computerized tomography concluded intracranial haemorrhage in 4 patients. Only one patient was available with blood in his urine.

Seven babies were born by caesarean operation and 28 born from normal vaginal way. Twenty five babies were born at home while ten got birth in nursing homes. The locations of bleeding at the time of admission are provided in Table-1.

Bleeding sites	No of Patients (35)	Percentage
Contusions	25.00	71.00
Intracranial	4.00	11.40
Haematochezia	12.00	34.00
Stool	17.00	48.00
Nasal	14.00	40.00
Injection site	7.00	20.00
Urine	1.00	2.00



The medical manifestations are available in Table-2. A large quantity of the patients was present with skin bleeds. Table-3 describes the response of this vitamin on PT & aPTT.

Clinical symptoms	No of Patients (35)	Percentage
pallor	35.00	100.00
Poor feeding	7.00	20.00
Irritable	8.00	22.80
Convulsion	4.00	11.40
Bulging fontanel	3.00	8.50
Discoloration of skin	25.00	71.40
Vomiting	8.00	22.80
Poor reflexes	9.00	24.00

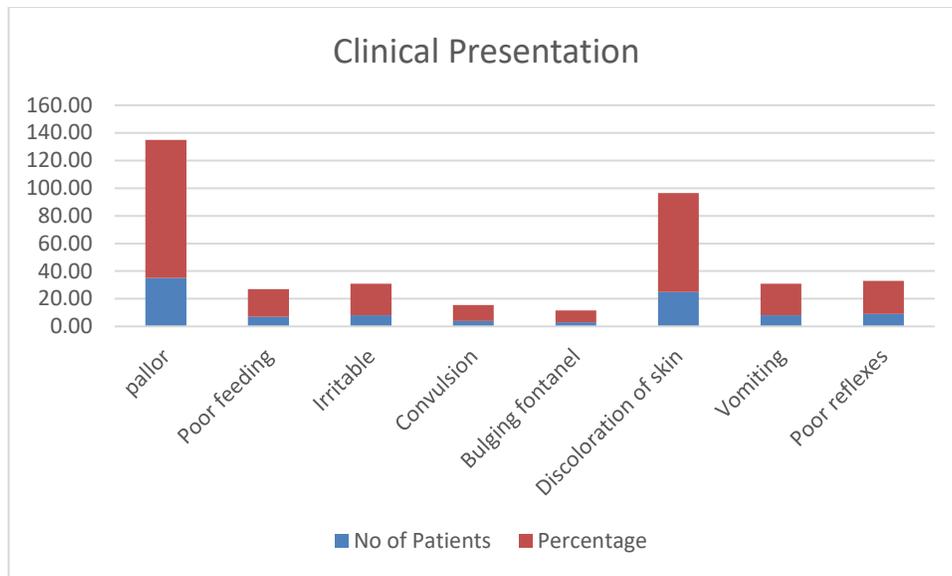
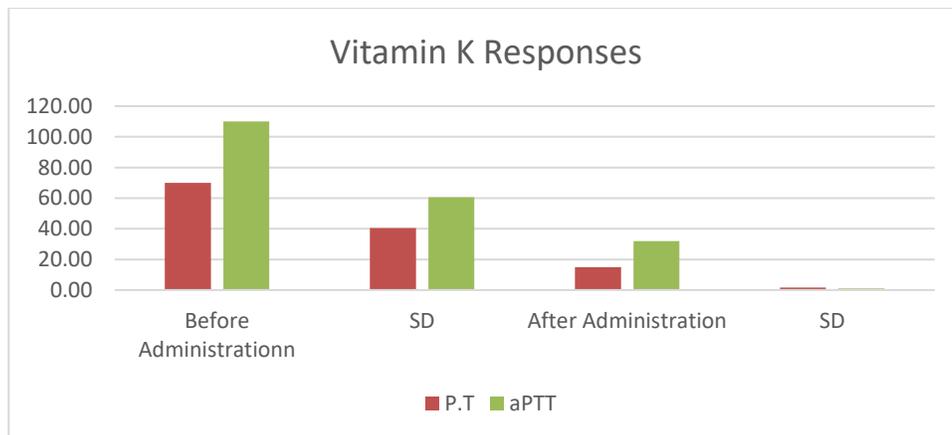


Table-III: Response of vit K on PT & aPTT.

	Before	SD	After	SD
P.T	70.00	±40.50s	15.00	±1.60s
aPTT	110.00	±60.00s	32.00	±1.00s



DISCUSSION:

The data of this research work concludes that LDNH is the main reason of severe morbidity & mortality. In the countries which are under development, this disease is now an uncommon life hostile disease because of use of the vitamin K at birth [3]. Many research works in this field shows this disease is available in the babies who got birth at homes [5]. In this case study, births were carried out in private clinics or houses where there is no practice of providing this vitamin. The admission to child ward

after neonatal period shows that LHDN is a significant issue. More than sixty percent babies were of the age of four to eight weeks.

There is no vitamin K in the liver of new born, but it gathers after the birth. The low amount of the vitamin K in milk of the female breast can describe the high occurrence of the LHDN at this small age [3, 6]. Maximum babies of the LHDN in the research works took their feedings from breasts and a small quantity among them had taken vitamin K at the time of birth [7]. In this research work, most of the females were

taking breast milk and there had not taken vitamin K at the time of the birth. In this research work, ICH was available as common aspect in ten percent patients. Haemorrhage of the skin & rectal bleeding was found in the remaining patients. Subdural haemorrhage was the most frequent type of ICH as concluded which was followed by haemorrhage subarachnoid [5]. In some other case studies, ICH was present in seventy percent patients [8].

In this research work, seventy five percent patients had haemorrhages at many spots which are not often elaborated. ICH was available in fifty to eighty percent babies in different case works & it is the reason for death and serious abnormalities in fifty to seventy percent patients [4]. Fourteen to fifty percent mortality rate has been described [4, 9]. The mortality rate was five percent in this case study due to the small group of the patients. LHDN can be the outcome of head injury or wrong detection of the child abuse [10]. Thymic haemorrhage is the main cause of the respiratory distress in the babies [11, 12]. Babies can hardly have secondary hydrocephalus [13]. There are case studies of before term babies who had taken the vitamin k intravenous injections at the time of the birth available with LHDN [16]. Many research works have proved that the oral Vitamin K is not much effective in the prevention of the LHDN.

CONCLUSION:

The management of the injections of vitamin K to all the new births is very difficult especially children who born at home. It is clear that the idea management of this vitamin at birth is not recognizable to the care givers of the health departments. Twenty percent of the babies were delivered in those centres but they were not given the vitamin. About 0.5 to 1mg amount of the vitamin K should be given to children at the time of the birth. The incidence of the ICH can lead to death or the deficiency in the central nervous system which is a complete justification for the management of this vitamin at the time of birth.

REFERENCES:

1. Chook E, Tan KK, Chuah SP, Ariffin WA, Gururaj A. Hemorrhagic disease in newborn and older infants: a study in hospitalized children in Kelantan, Malaysia. *Ann Trop Pediatr* 1994; 14:231-7.
2. Ruddy GN, Smith CM, Malia RG. Late-form hemorrhagic of the newborn: a fatal case report with illustration of investigations that may assist in avoiding the mistaken diagnosis of child abuse. *Am Forensic Med Pathol* 1999; 20:48-51.

3. Vitamin K Ad Hoc Task Force. Controversies concerning vitamin K and the newborn. *Pediatrics* 1993;91:1001-3.
4. Isarangkura PB, Pintadit P, Tejavej A, Siripoonya P, Chulajata C, Green GM. Vitamin K prophylaxis in the neonate by oral route & its significance in reducing infant mortality and morbidity. *J Med Assoc Thai* 1986;69:56-61.
5. Christensen RD. Developmental aspects of blood hemostasis and disorders of coagulation and fibrinolysis in the neonatal period. In: *Hematologic Problems in the Neonate*. Philadelphia, Pa: WB Saunders Co 2000;239-71.
6. Loughan PM, McDougall PN. Does intramuscular vitamin K act as an unintended depot preparation? *Pediatr Child Health* 1996;32:251-4.
7. Chuansumrit A, Isarangkura P, Hathirat P. Vitamin K study Group. Vitamin K deficiency bleeding in Thailand: A 32-year history. *Southeast Asian J Trop Med Pub Hlth* 1998;29:649-54
8. Pooni PA, Daljit Singh, Harsesh Singh, Jain BK. Intraventricular hemorrhage in late hemorrhagic disease of Newborn, *Indian Pediatrics* 2003;40:243-8.
9. Sutor AH, Dages N, Neiderhoff H. Late form of vitamin K deficiency bleeding in Germany. *Klin Pediatr* 1995;207:89-97.
10. Taeusch HW, Ballard RA, eds: Hemostatic disorders in newborns. In: *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, Pa: WB Saunders Co 1998;1045-79.
11. Urrvoas E, Pariente D, Rousset A. Ultrasound diagnosis of thymic hemorrhage in an infant with late-onset hemorrhagic disease. *Pediatric Radio* 1994;2:96-7.
12. Kaur P, Tann KK. Hemothorax due to hemorrhagic disease of the newborn. *Acta Pediatric Japon* 1994;36:95-6.
13. Heron P, Cull A. Avoidable hazard to New Zealand children: Case reports of hemorrhagic disease of the newborn. *New Zealand Med* 1998;101:507-8.
14. Solves P, Altes A, Ginovart G. Late hemorrhagic disease of the newborn as a cause of intracerebral bleeding. *Ann Hemato* 1997;75:65-6.
15. Von Kries R. Vitamin K prophylaxis-A useful public health measure? *Pediatr Perinat Epidemiol* 1992;6:7-13.
16. Loughan PM, McDougall PN, Balvin H, Doyle LW, Smith AL. Late onset hemorrhagic disease in premature infants who received intravenous vitamin K. *Pediatr Child Health* 1996;32:268-9.

