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			34	
.2004		2004		
	%53			
30			(%94)	32
8 5	(%73)		( 24 +/-54.5 )	120

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- - - \*

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(%75)

(%37)

(%50)

(%76)

.(%25)

%40

%72

.(%40)

(%66)

%21.8

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## **Intracranial Hemorrhage Due to Vitamin-K Deficiency after the Neonatal Period**

**Ayman AL –Balkhi\***

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### **Abstract**

Late hemorrhagic disease of the newborn (HDN) is a rare complication of vitamin-K deficiency and is especially associated with intracranial hemorrhage (ICH). It may also occur in infants after the neonatal period. This research aims to draw attention to the late form of the hemorrhagic disease of the newborn, secondary to vitamin K deficiency, as a cause of intracranial hemorrhage in young infants, after the neonatal period.

A prospective study of 34 infants admitted on Pediatric Intensive Care Unit and Children Hospital at Damascus University was conducted from January 2004 to December 2004. They were diagnosed as having Late HDN by the Definite Criteria.

All infants were term babies on exclusive breast-feeding and none except one received vitamin K at birth. 53% of the infants were delivered at home. 32 (94%) of these had acute intracranial hemorrhage (ICH). The disease occurred in infants between 30 and 120 days of age (mean: 54.5 +/-24 days), the majority (73%) of the infants are between 5 and 8 weeks old. The most frequent presenting complaints of ICH were seizures (75%), pallor (76%), poor sucking (50%), irritability and high-pitched cry (37%), and vomiting (25%). The most frequent examination findings were tense or bulging fontanel (72%), drowsiness and coma (40%).

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Computerized tomography showed mild to severe intracranial hemorrhage. Intracerebral hemorrhage (66%) was the commonest form of intracranial hemorrhage, followed by subdural hemorrhage (40%). The clotting defect was rapidly corrected with intravenous vitamin K. The overall mortality rate of ICH due to VKDB was 21.8 %.

ICH due to Vitamin K Deficiency Bleeding (VKDB) is still an important cause of mortality and morbidity in developing countries where vitamin K prophylaxis is not routinely practiced. The most important publications on this subject are reviewed.

Physicians must be alert to consider VKDB in young infants with intracranial hemorrhage, till the 6th month of age, especially those who did not receive vitamin K at birth. Prophylaxis with 1 mg of intramuscular vitamin K at the birth must be given to prevent this severe complication.

**Key words:** Intracranial hemorrhage, Vitamin K deficiency.

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2-7 : -2 :

.  
: -3 Hemorrhagic Disease of Newborn  
(HDN)  
(1)

(2) (1)

Vitamin K Deficiency  
Bleeding (VKDB)  
(VKDB)

Platelets

Disseminated (1)  
Intravascular Coagulopathy (DIC)

Choo KE

24% : -1

24 : -1

(3)

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(4) 26%      Cornelissen EA

"

50-80%

(60%)

.(5)

Intracranial

Hemorrhage (ICH)

1/100

.(7-8-9)      70%    50

Pooni PA

.(1-2-6)

(8)      25-80/100

4-25/100

427    82.7%

(7-8)

Hanawa Y      Cornelissen EA

44%      (10)

(11)      Von Kries

(43%)      7/100

.(5)      .(4-8)    1.1/100

:

34.3/100

10.1/100

Matsuzaka

1988 1974

.(12) T

20-50%

.(1)

:

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9 7 2

-6

10 .31/12/2004 1/1/2004

2-3

:

.(8-13-14)

5

3

24

5-13-)

:(14

:

-1

-2

.( 150 )

-3

FDP -4

-5

/

24



6 82%

28

54.5 +/- 24

.DIC

1-4

:

- 1 -

34

:

-1 -

73%	25	5-8
23%	8	9-12
6%	1	13-16

4 (

73%

16

32

33

3-

3

4

5

3-5

18

53%

16

14

47%

12

)

(2)

(34 )

%		
6	2	
	*15	( )
94	**32	**
75	24	
72	23	
50	16	
40	13	
37	12	+
44	14	
76	26	
25	8	

15

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17

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15

34 32

94%

32

(6%)

. / 7 > 11 :

2 . / 7-10 19 (Presentation)

6% 60% 34% . / 10 <

. 40% 50% 72% 75%

436 .

. 829 156

PT ( )

PTT (35%) 34 12

34 26

PTT 12% PT .(76%)

) 100

( " 32 15

29%) 10 : (47%)

( 15

. 6 (28%) 9 (47%)

10-9-7-2 2-15

. 15 3

5 20

. 3

( )  
 ( 40%) Falx Cerebri  
 18% (100%) 32

(53%) 32 17

.- 3 -

66%

- 3 -

(32 )

		(%)	Site
11	10	(66%) 21/32	( ICH)
11	2	(40%) 13/32	( SDH)
11	2	(40%) 13	
6	0	(18%) 6	( SAH)
2	1	3	(IVH)
1	0	1	
		(22%) 7	SDH+ICH
		(15.6%) 5	*

5

4

3

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(71.8%) 32

23

40%)

( 56.5%

6

(9%) 3

23 7 .

30.4%)

21.8%) 7/32 (

.( 5-15-16)( %100 -%98) .(

:

(3-5-8-17)

Choo KE

Pooni (3) 81%

. (8) 47%

(5) (80%)

53%

47%

)

( . 20%) (

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0.25/100

10 1.4  
" )  
7 Choo KE (  
42  
.(3)  
(24) "  
(8)  
3  
.(4-8-18-19-20)  
4 3-5  
3-5 2-3-5-)  
(16-21-22

(24) Vonkries

15

(1) Sutor AH (8)

6

3

9-)

.(15-16

2-8

HDN

- 4 -

/				
(73%)	5-8	54.5 +/- 24	5-16	( )
			2-52	(15) Bhanchet P
			2-52	(9) Bor O
			2-26	(16)Chaou WT
		49 ± 18		(25) Yavuz H
		56 ± 24		(26) Aydinli N
(66.6%)	4-8			(8) Pooni
(63%)	4-8			(10) Hanawa Y

6-12

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ICH 32  
37  
( 66%) 63

40%) Falx Cerebri ( ) .(22)  
(  
.18%

3-) 30% 80% 100% /  
. (18) .(8-10-19)  
(53%) 33 ICH  
82.7% -

Non accidental .(2-8-10-12-15)  
8-)  
. (27) 94%



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K 14 50%

7-8-)

.(28) (10-13

50-70%

Marcial (7)

2001 Demiroren K

Ekelund (25) 32%

(29) 35%

Klebanof Bhanchet 93

10 (30)1993 53% P

"

" .(15)

.(1-28-31)

K

:

Golding

---

%73 (%45)

.(32)

2002

.(34)

1.8/100

3

2

.(33)

:

3.6/100

.(33)

(6-13)

( )  
3 2

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1999-2000. - -
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