MATERNITY GUIDELINES

Vitamin K

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1. Introduction

Newborn infants have low levels of Vitamin K and its dependant clotting factors. Severe deficiency can result in Vitamin K Deficiency Bleeding (VKDB).

The incidence of this condition without Vitamin K prophylaxis is 4 to 7 per 1000 births. Umbilical, gastrointestinal and intracranial haemorrhages can occur.

- **Early VKDB** presents within 24 hours of birth.
- **Classic VKDB** presents between day 1 and day 7 of life.
- **Late VKDB** presents between week 2 and week 12 of life.

Breast fed infants are at particular risk as formula milk is supplemented with Vitamin K.

Infants born to mothers on certain medications are at risk of early VKDB:

- Anticonvulsants e.g. phenobarbitone, phenytoin
- Anti-tuberculous treatment with rifampicin and isoniazid

2. Recommendations

It is recommended that all infants receive an intramuscular (IM) injection of Vitamin K at birth.

Infants born to mothers carrying a blood borne infection such as Hepatitis B, C or HIV should have the site of injection thoroughly cleaned prior to the injection.

3. Administration

A single dose of Vitamin K (Konakion MM) should be given intramuscularly at birth to all infants of 34 weeks and over

- **Infants 34 weeks and over - 1 mg IM (0.1 ml)**

- **Infants < 34 weeks should have the dose of Vitamin K calculated according to weight (usually on Neonatal Unit)**

Weight of infant	Dose of Vitamin K	Injection volume
1kg or less	0.4mg	0.04ml
I kg to 1.5kg	0.6mg	0.06ml
1.5 to 2 kg	0.8mg	0.08ml
2kg and over	1mg	0.1ml

All sick infants admitted to Neonatal Unit receive IM vitamin K due to increased risk of VKDB.

3.1 Oral Vitamin K

If parents do not consent to IM but consent to oral vitamin K this must be given in 3 separate oral doses.

- 2mg (0.2 ml) oral soon after birth on delivery suite
- 2mg oral at 4 – 7 days, given by the community midwife
- 2mg oral at one month, given by the health visitor

Parents should be advised that oral administration is not as effective as the intramuscular route at preventing VKDB.

The delivering midwife is responsible for administering the first oral dose and documenting this on the infant's prescription chart and notes. If the infant vomits or regurgitates within 1 hour of an oral dose this should be repeated.

If oral vitamin K is given a box of ampoules must be dispensed by Central Delivery Suite. However, this needs to be prescribed by a neonatal doctor in order for the parents to take the Vitamin K home.

It cannot be dispensed to the parents without this prescription.

Every dose of Vitamin K must be recorded on the Once-Only section of a prescription sheet and within the maternity & neonatal records. All records of administration must clearly bear the signature and name of the midwife, and a second checker, and the words “Midwives’ Exemption”.

4. Patient information and discussion

Vitamin K should be discussed with the parents in the antenatal period. This should be prior to delivery preferably at the 36 week gestation appointment when discussing labour and birth plan. The discussion and verbal consent should be recorded in the mother’s care plan on page 23 in the maternity hand held notes.

Where there are communication or language support needs assistance can be obtained via patient advice and liaison service (PALS) and/or interpretation services.

5. Parental Refusal

If parents refuse Vitamin K administration they should be given the opportunity to discuss their concerns with a Neonatal Doctor or Nurse Practitioner and be informed of the risks of VKDB. All discussions must be documented in the infant’s notes.

Refusal is often due a belief that there is an association between Vitamin K and childhood cancers. There have been a number of studies investigating a possible link. There remains no proven risk. This unproven risk must be balanced against the proven risk of developing VKDB with its significant mortality and morbidity if no Vitamin K is given.

Monitoring and Audit

Auditable standards:
See audit tool
Documented patient discussion and patient information leaflet given re: Vit K
Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines

Reports to:
Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit

Frequency of audit:
Annual

Responsible person:
Neonatal SHO/ANNP/Midwife

Cross references

Thrombocytopaenia

Hepatitis B:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Hepatitis%20B.pdf?timestamp=1539156531602

Infants born to Hepatitis C positive mothers

Infants born to HIV positive mothers:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/HIV.pdf?timestamp=1539156635051

References

NICE clinical guideline 37 **Postnatal care up to 8 weeks after birth** (2006) Updated 2015

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Shearer MJ; **Vitamin K deficiency bleeding (VKDB) in early infancy**. Blood Rev. 2009 Mar; 23(2):49-59. doi: 10.1016/j.blre.2008.06.001. Epub 2008 Sep 19.

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Version	4		
Changes	Timely Review		
Date Ratified	Oct 2018	**Valid Until Date**	Oct 2023