Vitamin K and the Newborn

What is Vitamin K?

Vitamin K is a fat-soluble vitamin that is essential to help blood clot. It is produced by bacteria in the intestinal tract.

Why do we give newborns Vitamin K?

Normal newborn babies in the first few days have lower levels of Vitamin K – the reason for this is currently not understood. If any bleeding occurs, a newborn's blood will take longer to clot than an adult's. The concern with this is that some babies will encounter a temporary abnormality of the blood coagulation system called vitamin K-deficiency bleeding (VKDB).

The Canadian Pediatric Society recommends that all newborns receive an injection of Vitamin K in the first 6 hours of life. Vitamin K supplementation has been in use in North America since the 1950's and has reduced the incidence of VKDB to 1 in 1 million.

What is VKBD?

Early VKDB typically occurs within 24 hours of birth and is associated with premature birth, birth injuries from a complicated birth or maternal use of medications (e.g. anticonvulsants, oral anticoagulants, cephalosporins and tuberculostatics). It occurs almost exclusively in breastfed babies. Without Vitamin K supplementation the incidence is about 0.01%- 1.5%). Classic VKBD occurs between 24 hours and 7 days of age and is associated with late onset of feeding, inadequate milk intake and marginal Vitamin K content in breast milk. Colostrum has more Vitamin K than breastmilk which supports the need for early and frequent breastfeeding. Supplementing the baby with Vitamin K has lowered the incidence in all aspects of this disease.

VKDB is characterised by generalised ecchymoses (bruising), cephalohematoma, intracranial and gastrointestinal bleeding, umbilical or nasal bleeding, and bleeding from needle-prick sites or after circumcision. Sometimes the bleeding is internal and early symptoms may not always be evident. There is also a late onset form, which may occur from one to twelve months. Late VKDB is a potentially fatal disease because of the risks for intracranial haemorrhage.

How is Vitamin K given?

Vitamin K is given to newborns via a single intramuscular injection into the thigh muscle using a very tiny needle. Many studies have concluded that the IM administration is the most effective method of lowering the incidence of all types of VKDB. Some studies have raised concerns regarding long term side effects but the evidence to date is not definitive and the benefits seem to outweigh the possible risks. Intramuscular vitamin K injections can carry a risk for damage to muscles, blood vessels, nerves and the femur, if performed improperly, however this is extremely rare. Intramuscular injection can be a painful experience for the infant, but for most babies it is of momentary discomfort. We usually wait until after the baby has had breastfeeding and cuddling time. Babies can be held by a parent when the injection is given, if they wish.

Vitamin K can also be given orally in multiple doses over several weeks. This method does not have definitive research findings and it is generally accepted that further study is necessary before oral administration can be confirmed to offer the same protection as the IM route. The concerns are that oral Vitamin K is not as well absorbed as IM vitamin K and multiple doses are needed. We are currently not recommending Vitamin K be given orally due to difficulty in obtaining a quality product and determining an appropriate dose. If you wish to discuss this further please let your midwife know.