VITAMIN K DEFICIENCY BLEEDING

Vitamin K Deficiency Bleeding (VKDB) can occur in any infant. For some reason of nature that we don't fully understand, newborns don't have much Vitamin K, and they don't make their own until they are eight days old. Vitamin K is the blood clotting factor. It is necessary for the blood coagulation process in the liver to work. Babies can bleed too much if for some reason the little bit of Vitamin K that they do have can't work properly. This leads to a condition called Vitamin K Deficiency Bleeding.

One intramuscular injection of synthetic Vitamin K can prevent VKDB from occurring. This is the standard preventative treatment given routinely in hospitals. The injection itself is not without risks. Parents must become informed about VKDB, how often if occurs and what risk factors are associated with it, and decide if they want their newborn to receive the preventative injection. Please read the following information.

Maternal Causes of Vitamin K Deficiency Bleeding:

1. An unhealthy diet or a mal-absorption disorder. Eating green vegetables and whole grains is especially important, as is avoiding foods that have been irradiated or contain dioxin.
2. Not nursing long enough or frequently enough. This affects how much Vitamin K the baby gets in breast milk. Breast milk contains small amounts of Vitamin K, and studies have shown that VKDB occurs primarily in babies who don't get enough nourishment in the first days of life.
3. Medications taken during pregnancy, including cephalosporin antibiotics, anticoagulants, anticonvulsants, anti tubercular medications, barbiturates, chemotherapy, radiation, chemical vapors (dioxin), aspirin, sulfa medications, and iodine.
4. Maternal diabetes, toxemia, or placental problems.
5. Undue stress during the pregnancy. This can affect how well the baby's liver functions. Stresses can be of many types, including environmental and emotional. Studies are not specific about this.

Newborn Causes of Vitamin K Deficiency Bleeding:

1. Poor feeding, or not nursing enough.
2. Gastro-intestinal disease or homeostasis (blockage of bile drainage ducts in the liver, caused by hepatitis, undeveloped bile ducts or other congenital defects, or infection). Prolonged, pronounced jaundice is a sign of these.
3. Medications that the mother has taken during the pregnancy or labor, or that the baby has been given as a newborn.
4. A particularly difficult birth, resulting in birth trauma.
5. Prematurity. The immature liver functions less effectively.
6. Hypoxia (lack of oxygen).
7. Diarrhea longer than 3 days.

All these things can affect how well the baby's body, especially the liver, can work to efficiently use the available Vitamin K.

Types of Vitamin K Deficiency Bleeding:
Early onset (under 24 hours old). This usually involves an intracranial bleed, and the most common cause is maternal medications during pregnancy. It is rarely hereditary or from an unknown cause; it is also very rare.

Classical (1-8 days old). The occurrence of this type is 1 in 200 to 1 in 4,000, depending on the study and the risk factors present. The causes are prematurely, delayed onset of feeding, inadequate feeding, low Vitamin K in the breast milk. The sites of bleeding, in order of frequency, are: Gastro-intestinal, cord site, nose, throat, needle prick, circumcision, or intracranial.

Late (8 days to 6 months). The occurrence is 1 in 5000 or more. The causes are low Vitamin K in breast milk from an underlying maternal cause, or some type of disease in the baby (liver, bile duct, or GI). Intracranial bleeding is the most common site, but urogenital or intrathoracic (chest) bleeding can also occur. The warning signs are: prolonged jaundice, poor feeding, failure to thrive, and any unusual bleeding.

50-80% of the time an infant has any type of VKDB, it is manifest as an intracranial bleed, with or without bleeding from other sites. Half of these babies die or are handicapped as a result.

Warning Signs:
1. Bleeding: from the nose, mouth, ears, umbilical cord, urinary tract, rectum
2. Bruises without known trauma (chest, arms, hands, navel)
3. Black, tarry stools after meconium has cleared
4. Bleeding longer than 6 minutes from puncture site
5. Pale, jaundiced, glassy-eyed, high-pitched crying, irritable, vomiting, feverish baby with low appetite (all signs of intracranial bleeding)
6. Prolonged, pronounced jaundice, especially with dark urine
7. Failure to thrive
8. Vomiting blood after 24 hours old

A warning bleed usually occurs. Treatment at the first sign of bleeding can prevent further effects of VKDB.

Risks of giving the prophylactic Vitamin K shot to the baby
- Too much Vitamin K may be harmful to baby. Levels remain 1,000 times higher in the blood for 3-4 days after the shot. This may effect changes at the cellular level.
- Jaundice. Baby's liver must process the shot. Causes rise in bilirubin.
- Bleeding may still occur. One shot may not protect the baby from VKDB
- Anaphylactic shock, allergy to preservative in shot

Trauma at injection site (pain, swelling)

Controversies about VKDB
Studies about VKDB are hard to interpret due to our lack of understanding the problem, the difficulty collecting data, and the many possible causative factors. Most babies born in hospitals are treated with a routine Vitamin K shot, while most babies in poorer countries, with many contributing factors, are not. Some have theorized that low Vitamin K levels at birth must beneficial in some way to the newborn, and that giving Vitamin K may be harmful. Others have theorized that another clotting inhibitor may be the cause of the bleeding, not a deficiency in Vitamin K. Studies have been done to attempt to show that a Vitamin K injection may be only necessary for premature babies or those who have suffered from hypoxia or birth trauma. Our understanding of the issue is constantly changing. However, regardless of the controversies, every study concludes that there is a significant reduction in bleeding episodes when the

prophylactic Vitamin K shot is given.

Suggestions for Prevention of VKDB

There are many suggestions for prevention of VKDB through diet and supplementation during pregnancy. The effectiveness of these methods has not been established. They include:

1. Dark, leafy greens and whole grains diet. Avoiding frozen or irradiated foods.
2. Enough calcium in the diet.

The following are especially recommended if there are known risk factors or a family history of bleeding disorders:

3. Dandelion root tincture to strengthen the liver.
4. Alfalfa tablets, infusion, or sprouts after 36 weeks pregnancy.
5. Nettle tea during pregnancy.
6. Shepherds Purse during pregnancy (coagulant and ant hemorrhagic)
7. Quinone, an oil-bases Vitamin K supplement, daily after 34 weeks pregnancy.
8. Choline with B complex supplements to strengthen the liver.

I/we_____ and _____,

Being the parent (s) of_____, born at home on_____,

Do hereby choose/choose not (circle one) to administer prophylactic Vitamin K to our newborn. We have read all of the above information, we understand it, and have discussed any and all questions with our midwife that we deem necessary. We understand that one Vitamin K injection is standard procedure in American hospitals. We have freely made our choice and understand the consequences of our choice.

Signed:_____ Date:_____

Signed:_____ Date:_____

Signed:_____ Date:_____