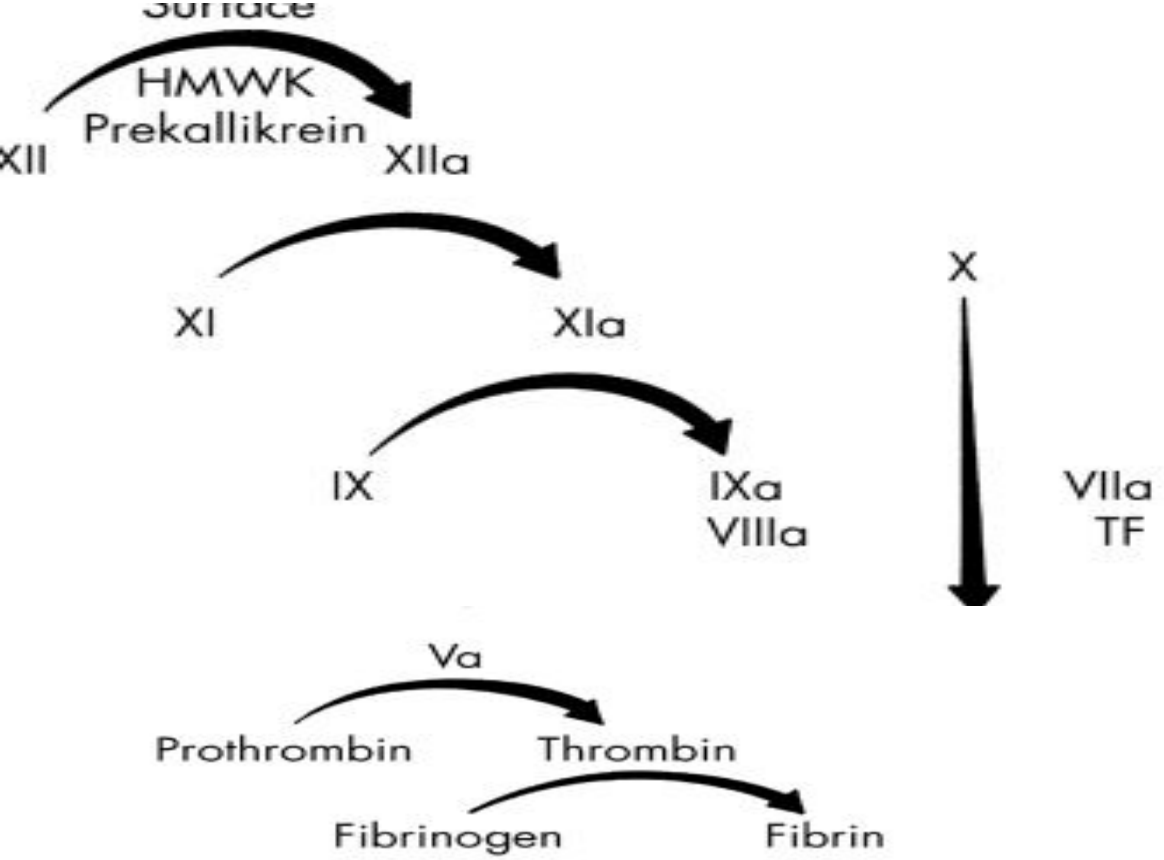
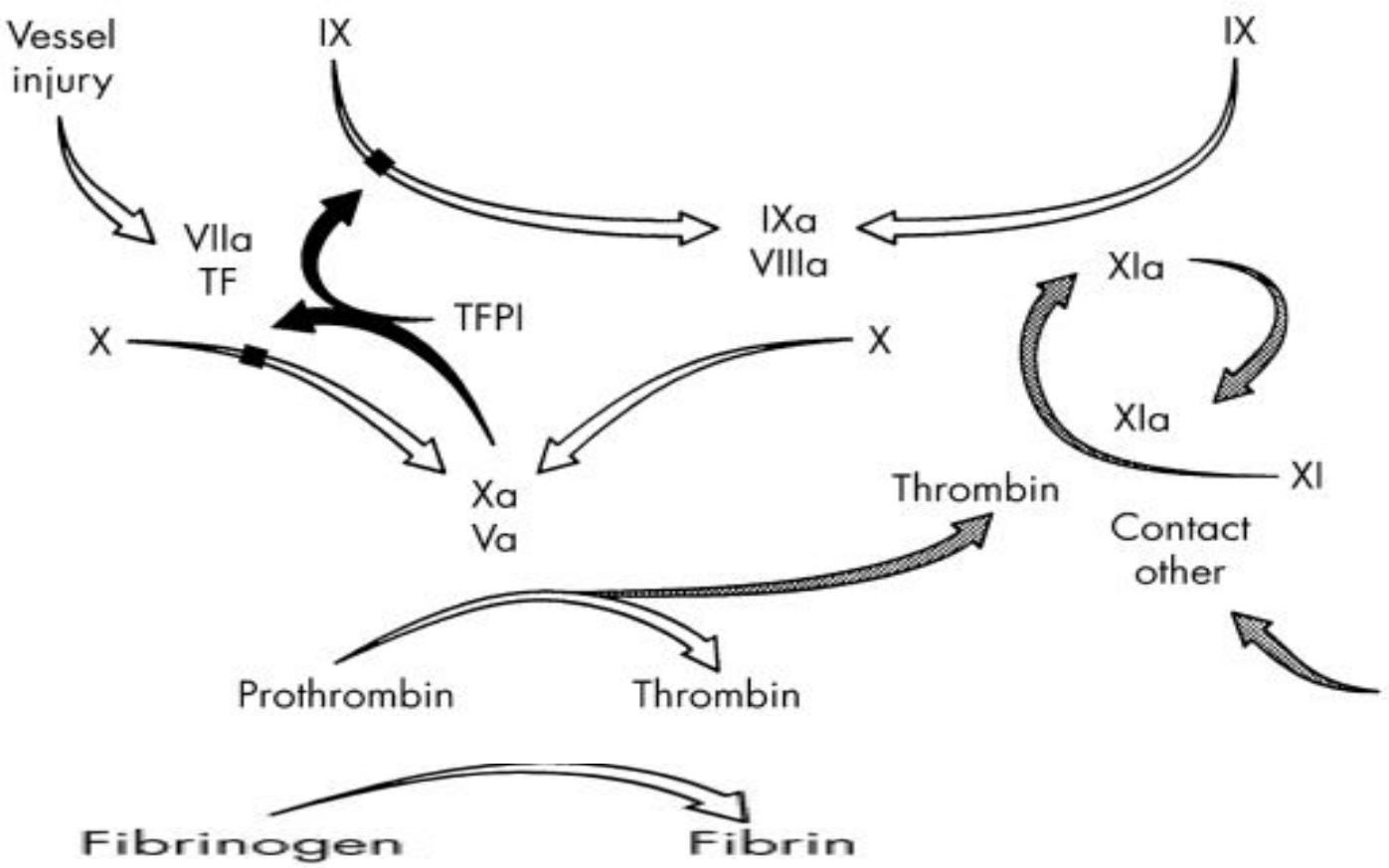
HEMORRHAGIC SYNDROMES OF NEWBORNS

Hospital pediatrics department



The cascade-waterfall hypothesis of blood coagulation. In this scheme, coagulation may be initiated by the extrinsic or intrinsic pathway, either of which can lead to thrombin-mediated formation of a fibrin clot via a common pathway involving factor Xa, factor Va, and phospholipids. HMWK, high-molecular-weight kallikrein; TF, tissue factor.



Revised hypothesis of blood coagulation, in which coagulation is initiated by factor VIIa- and tissue factor (TF)-mediated activation of factors IX and X, sustained through the participation of factors VIIIa and IXa, and consolidated by factor XIa. Tissue factor pathway inhibitor (TFPI) inhibits factor Xa, and in a factor Xa-dependent fashion, feeds back and inhibits the factor VIIa-tissue factor complex.

Hemorrhagic disease of the newborn can be temporally divided into three types.

Early disease occurs in the first 24 hours of life and generally is seen in infants born to mothers taking oral anticoagulant or anticonvulsant drugs. These infants often have serious bleeding, including intracranial hemorrhage.

The melena is necessary for differentiating from " a syndrome of mother's swallowed blood " which gets in vomitive masses and a feces of the child.

For this purpose the test of Apt is used:

Identification of early warning signs and prompt treatment of VKDB will decrease the incidence of serious bleeding, particularly intracranial hemorrhage. It is treated with intravenous vitamin K1, which is infused slowly due to a theoretical risk of anaphylaxis. Intramuscular injection is avoided due to bleeding risk. Confirmation of the diagnosis should not delay therapy. A rise in coagulation factor levels and function occurs within 2 hours of therapy, with complete correction within 24 hours.

Serious bleeding may be treated with 10 to 20 mL/kg of fresh-frozen plasma.

In the setting of life-threatening hemorrhage, a purified factor IX product containing many of the vitamin K-dependent factors, a prothrombin complex concentrate, or recombinant factor VIIa may be used.