



HEMORRHAGIC FEVER: MARBURG/EBOLA VIRUS DISEASE

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ABSTRACT

Hemorrhages occurring in the newborn without trauma have been observed by obstetricians since the 17th century, but have been considered different diseases depending on their location. Umbilical hemorrhage associated with obstructed bile canals was described by Cheyne in 1802. Grandidier in 1871 and Townsend in 1894 grouped together various forms of neonatal bleeds and associated them with disturbed coagulation. When the clotting system became better understood in the last decade of the 19th century, effective symptomatic treatment was developed: gelatin, serum injection, and the transfusion of fresh blood. In 1935, Dam detected the function of vitamin K in the coagulation system and 4 years later, Waddell introduced vitamin K administration into therapy and prevention of neonatal hemorrhagic disease. Kernicterus occurred when high doses of synthetic water-soluble vitamin K analogues were given to preterm infants, reminding physicians that progress in neonatal therapy rests on the cornerstones of controlled trials and follow-up.

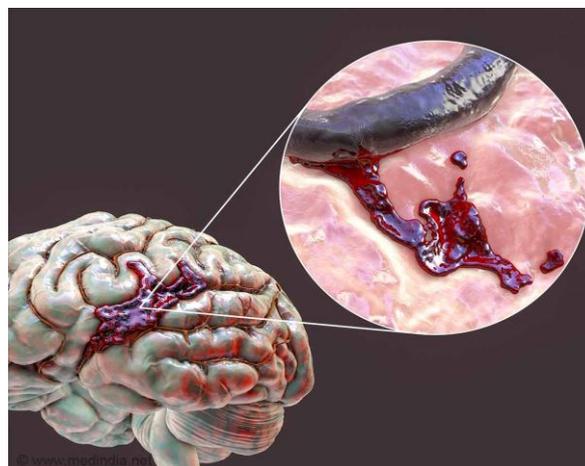


KEYWORD: Diagnosis; intracerebral hemorrhage; prognosis; surgery; treatment.

INTRODUCTION

Hemorrhagic disease is a **bleeding problem that occurs in a baby during the first few days of life**. Babies are normally born with low levels of vitamin K, an essential factor in blood clotting. A deficiency in vitamin K is the main cause of hemorrhagic disease in newborn babies.

Viral hemorrhagic (hem-uh-RAJ-ik) fevers are infectious diseases that can cause severe, life-threatening illness. They can damage the walls of tiny blood vessels, making them leak, and can hamper the blood's ability to clot. The resulting internal bleeding is usually not life-threatening, but the diseases can be.



Some viral hemorrhagic fevers include

- Dengue
- Ebola
- Lassa
- Marburg
- Yellow fever

Types of hemorrhagic fevers are-
Alkhurma hemorrhagic fever.

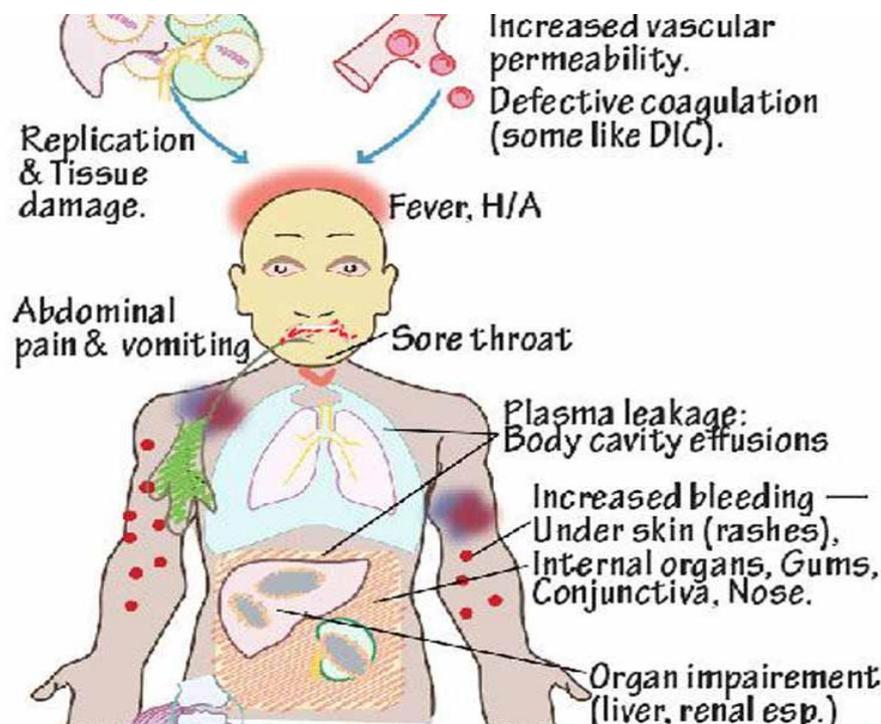
- Chapare hemorrhagic fever.
- Crimean-Congo hemorrhagic fever.
- Ebola (Ebola Virus Disease)
- Hantavirus Pulmonary Syndrome (HPS)
- Hemorrhagic fever with renal syndrome (HFRS)

SIGN AND SYMPTOMS- viral hemorrhagic fevers vary by disease. In general, early signs and symptoms can include:

- Fever
- Fatigue, weakness or general feeling of being unwell
- Dizziness
- Muscle, bone or joint aches
- Nausea and vomiting
- Diarrhea

Baby has VKDB, they may show subtle signs of “failure to thrive” before a serious bleeding event occurs. These symptoms include:

- warning bleeds, which may seem insignificant
- low weight for your baby’s age
- slow increase in weight



Bleeding can occur in one or multiple areas, including:

- their umbilical stump, the naval area where their umbilical cord was removed
- the mucous membranes of their nose and mouth
- their penis, if it’s circumcised
- areas where they’ve been stuck by a needle, for example, for vaccinations
- their gastrointestinal tract

You may notice blood in their stool or urine, bruising, or a raised lump on their head. If the raised lump appears early on, it’s probably a cephalohematoma. This is a type of hematoma that occurs when blood vessels underneath the scalp rupture during delivery. It usually resolves on its own. However, if the head lump appears later on, it

can be an **intracranial hemorrhage**. This is bleeding inside the skull. It’s a life-threatening condition.

Some of are life threatening like-
More-severe symptoms include:

- Bleeding under the skin, in internal organs, or from the mouth, eyes or ears
- Nervous system malfunctions
- Coma
- Delirium
- Kidney failure
- Respiratory failure
- Liver failure



CAUSES- Viral hemorrhagic fevers are spread by contact with infected animals or insects. The viruses that cause viral hemorrhagic fevers live in a variety of animal and insect hosts. Most commonly the hosts include mosquitoes, ticks, rodents or bats.

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Some viral hemorrhagic fevers can also be spread from person to person



Vitamin K deficiency results in bleeding in less than 2 percent of all babies. Babies at risk for developing hemorrhagic disease are:

- babies who don't receive preventive vitamin K in an injection at birth
- exclusively breastfed babies (breast milk contains less vitamin K than cow's milk formula)
- babies whose mothers have seizure disorders and take anti-convulsant medication
- Blood in the baby's bowel movements
- Blood in the baby's urine
- Oozing around the umbilical cord
- spontaneous bleeding can cause the following:
 - blood in the urine
 - blood in the stool
 - deep bruises
 - large, unexplained bruises
 - excessive bleeding

- bleeding gums
- frequent nosebleeds
- pain in the joints
- tight joints
- irritability (in children)

RISK FACTOR- The following conditions, medical histories and habits may put a person at a higher risk Trusted Source of a stroke:

- High Blood Pressure
- High levels of low-density lipoprotein (LDL) cholesterol
- Smoking
- Diabetes
- Genetic factors and family history
- A history of heart disease, cardiovascular disease, or stroke
- A previous brain aneurysm

- Experiencing a viral infection that causes inflammation, such as rheumatoid arthritis
- High levels of stress and anxiety
- Exposure to air pollution
- Some medical conditions, such as a bleeding disorder or sickle cell disease
- Using blood-thinning medication, such as warfarin (Coumadin)
- The use of recreational drugs such as cocaine
- Low levels of exercise
- Not having a varied and nutritious diet
- A high alcohol consumption
- A lack of sleep
- Excess weight around the waist and abdomen
- Cerebral Amyloid Angiopathy, Trusted Source in which proteins collect in the blood vessels in the brain, leading to damage and a risk of tears
- Having a genetic condition where blood vessels form in a tangled web (arteriovenous malformations or AVMs)

AVMs typically occur in the brain and spine. If they occur in the brain, the vessels can break, leading to bleeding into the brain. This disorder is rare.



Risk factors specific to hemorrhagic stroke

Additional risk factors for intracerebral hemorrhage include blood vessels not forming correctly in the brain, known as cerebral cavernous malformations.

Risk factors specific to subarachnoid hemorrhage include:

- Having a bleeding disorder
- Experience a head injury and physical trauma
- Using blood-thinning medication
- A bulge in the wall of a blood vessel, called a cerebral aneurysm

An aneurysm can increase in size, causing the artery wall to weaken. If an aneurysm bursts, uncontrolled bleeding may occur.

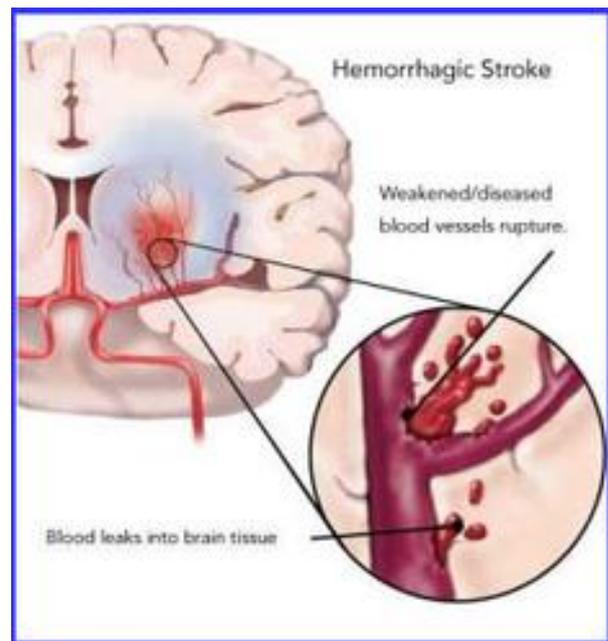
TREATMENT- Emergency treatment is required for cerebral haemorrhage. It usually involves medication and close monitoring in an intensive care unit. In rare cases, surgery may be required to relieve pressure around the brain. Injury is the most common cause of bleeding in

the brain for those younger than age 50. **High blood pressure.** This chronic condition can, over a long period of time, weaken blood vessel walls. Untreated high blood pressure is a major preventable cause of brain hemorrhages.

While no specific treatment exists for most viral hemorrhagic fevers, the antiviral drug ribavirin (Rebetol, Virazole) might shorten the course of some infections and prevent complications in some people. Other medications are being developed.

Therapy

Supportive care is essential. To prevent dehydration, you might need fluids to help maintain your balance of electrolytes — minerals that are critical to nerve and muscle function. Bleeding into the brain is called intracerebral hemorrhage (ICH) and is often caused by **high blood pressure**. Medical treatment — The treatment of a hemorrhagic stroke depends upon the cause of the bleeding (eg, high blood pressure, use of anticoagulant medications, head trauma, blood vessel malformation



Surgical and other procedures

Some people might benefit from kidney dialysis, which removes wastes from your blood when your kidneys fail. Intraoperative hemorrhage is most commonly caused by **structural defects, anticoagulant excess, hyperfibrinolysis**, or a generalized and severe disorder of hemostasis, such as disseminated intravascular coagulation.

Medicines

Cyklokapron. tranexamic acid.

- Methergine. methylergonovine.
- Amicar. aminocaproic acid.
- Nymalize.

- nimodipine.
- Raplixa.
- Andexxa.

DIAGNOSIS

Bleeding in the brain has a number of causes, including: **Head trauma**, caused by a fall, car accident, sports accident or other type of blow to the head. High blood pressure (hypertension), which can damage the blood vessel walls and cause the blood vessel to leak or burst. hemorrhagic disease of the newborn. If your baby's doctor suspects they have **VKDB**, they will perform blood clotting tests. They will give your baby a shot of vitamin K-1. If this stops your baby's bleeding, the doctor can confirm that the cause is VKDB.

- An evaluation of your physical symptoms.
- Computed tomography (CT) scan, magnetic resonance imaging (MRI) or magnetic resonance angiogram (MRA) of your brain. These imaging tests determine the location, extent and sometimes the cause of the bleed.

Other tests may include

- Electroencephalogram, chest X-ray, and/or urinalysis.
- Complete vascular study, complete blood count (CBC), and/or blood studies.
- Spinal tap to examine the cerebrospinal fluid that surrounds the brain.
- In some cases, conventional angiography may be done to identify an aneurysm or arteriovenous malformation.

CONCLUSION

Viral hemorrhagic fevers (VHFs) are a group of illnesses caused by four families of viruses. These include the Ebola and Marburg, Lassa fever, and yellow fever viruses. VHFs have common features: they affect many organs, they damage the blood vessels, and they affect the body's ability to regulate itself. Some VHFs cause mild disease, but some, like Ebola or Marburg, cause severe disease and death.

VHFs are found around the world. Specific diseases are usually limited to areas where the animals that carry them live. For example, Lassa fever is limited to rural areas of West Africa where rats and mice carry the virus.

The risk for travelers is low, but you should avoid visiting areas where there are disease outbreaks. Because there are no effective treatments for some of these viral infections, there is concern about their use in bioterrorism.

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