



Exploring the Link between Maternal Factors and Neonatal Thrombocytopenia

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DESCRIPTION

Neonatal thrombocytopenia is a condition characterized by low platelet count in newborns. Platelets are essential blood components responsible for clotting, preventing excessive bleeding, and promoting wound healing. When neonates have low platelet levels, they are at risk of bleeding complications, which can range from mild bruising to severe hemorrhage.

Causes of neonatal thrombocytopenia

Gestational thrombocytopenia: In some cases, infants may have low platelet counts due to a condition called gestational thrombocytopenia. This condition is typically benign and resolves on its own after delivery.

Maternal factors: Maternal conditions can contribute to neonatal thrombocytopenia. These may include Immune Thrombocytopenic Purpura (ITP), where the mother's immune system produces antibodies that destroy platelets, or preeclampsia, a condition characterized by high blood pressure and organ damage.

Infection: Certain infections can affect platelet production or increase platelet destruction in newborns. Examples include sepsis, rubella, Cytomegalovirus (CMV), and Herpes Simplex Virus (HSV).

Genetic Factors: Rare genetic disorders, such as Wiskott-Aldrich syndrome or Bernard-Soulier syndrome, can lead to neonatal thrombocytopenia.

Medications: Some medications administered to the mother during pregnancy, such as certain antibiotics or anticonvulsants, can potentially cause thrombocytopenia in the newborn.

Symptoms of neonatal thrombocytopenia

Neonatal thrombocytopenia may not always cause noticeable symptoms, particularly if the platelet count is only mildly decreased. However, in severe cases, infants may experience the following symptoms

- Tiny red or purple spots on the skin caused by minor bleeding.
- Larger purple patches or bruises on the skin due to bleeding under the skin.
- Bleeding from the gums, nose, or gastrointestinal tract. Excessive bleeding from minor cuts or abrasions.
- In rare cases, severe thrombocytopenia can lead to bleeding within the brain, resulting in neurological symptoms such as seizures, lethargy, or abnormal eye movements.

Diagnosis of neonatal thrombocytopenia

Diagnosing neonatal thrombocytopenia involves assessing the infant's platelet count through a blood test. A platelet count below 150,000 platelets per microliter of blood is considered low in newborns. Additionally, the healthcare provider will evaluate the infant's medical history, perform a physical examination, and consider maternal factors and potential risk factors.

To identify the underlying cause, further tests may be necessary. These can include blood tests to evaluate other blood cell counts, assess the function of platelets, screen for genetic disorders, and check for infections or maternal antibodies in the baby's blood.

Treatment of neonatal thrombocytopenia

The treatment of neonatal thrombocytopenia depends on the underlying cause and the severity of the condition. Mild cases may not require any specific treatment and can resolve spontaneously as the baby grows.

If the platelet count is critically low or if significant bleeding is present, a platelet transfusion may be necessary. Platelets from a compatible donor are transfused into the newborn to increase the platelet count and prevent bleeding complications.

If neonatal thrombocytopenia is caused by an underlying condition, such as maternal antibodies or an infection, treating the underlying cause may help improve the platelet count. This can involve medications, such as Intravenous Immunoglobulin

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(IVIg), to reduce maternal antibodies or antiviral medications to treat infections.

Close monitoring of the infant's platelet count and overall health is essential. Regular blood tests may be performed to assess platelet levels and monitor for any signs of bleeding. The healthcare provider will also closely observe for any changes in symptoms or the need for further interventions.

The outlook for neonatal thrombocytopenia depends on the underlying cause, the severity of the condition, and the promptness of diagnosis and treatment. In many cases, mild thrombocytopenia resolves on its own without intervention. However, severe thrombocytopenia or complications from bleeding can have more serious consequences.

With appropriate management and treatment, the majority of neonates with thrombocytopenia have a good prognosis. Platelet counts often improve over time, and the risk of bleeding

decreases as the baby grows older. Regular follow-up with healthcare providers and adherence to recommended treatments and interventions are crucial for ensuring the best possible outcome.

In conclusion, neonatal thrombocytopenia is a condition characterized by low platelet count in newborns. It can have various causes, including maternal factors, infections, genetic disorders, and medications. While mild cases may not cause noticeable symptoms, severe thrombocytopenia can lead to bleeding complications. Diagnosis involves assessing the platelet count through blood tests and evaluating potential underlying causes. Treatment options include platelet transfusion, treating the underlying cause, and close monitoring. With appropriate management, the majority of neonates with thrombocytopenia have a good prognosis. Regular follow-up and adherence to recommended treatments are important for ensuring the best possible outcome for affected infants.