Neonatal Hyperbilirubinemia or Jaundice

Hyperbilirubinemia is a common problem in infancy. Approximately 80% of preterm infants and 60% of term infants experience jaundice during the first week of life. Neonatal jaundice is a condition caused by an increase in the level of bilirubin in the blood. Bilirubin is a byproduct of the normal breakdown of RBCs in the liver and causes jaundice and sclerosis.

Types of Bilirubin:

Direct: soluble in water and free in plasma. It is excreted in the bile.

Non-conjugated: It is not soluble in water and is caused by the breakdown of red blood cells and tends to deposit in tissues.

Types of Jaundice:

Physiological, Breast Milk Jaundice, Pathological

Pathological Jaundice:

Pathological jaundice: Pathological jaundice is jaundice that manifests on the first day and its rate of increase is more than 0.5 mg/dl. Jaundice is always pathological on the first day of life and should be diagnosed immediately.

Early onset of jaundice is often due to hemolysis, internal bleeding (eg, hematoma, liver or spleen hematoma) and infection.

If the bilirubin concentration is more than 5 mg/dl in the first day of life in a full-term infant or more than 13 mg/dl in the following days, further evaluation should be performed by determining direct and indirect bilirubin levels, blood type, Coombs test, complete blood count, blood smear and reticulocyte count. These tests should be done before phototherapy or blood transfusions.

Physiological Jaundice

It is the most common type of jaundice and is found in almost all babies. This type of jaundice appears on the second and third days after birth and usually peaks on days 3-7. It usually resolves within 2 weeks without leaving a problem. The cause of this type of jaundice is immature liver function in infants.

Breast Milk Jaundice

It usually occurs after the seventh day in full-term infants who are breastfed. This type of jaundice is like physiological, but bilirubin levels are slightly higher and rarely require treatment. If breastfeeding is continued, the bilirubin level will gradually decrease. But it may last for three to ten weeks. If breastfeeding is stopped, serum bilirubin levels decrease rapidly. And it reaches normal in a few days.

Clinical Symptoms
Depending on the cause of jaundice, it may occur at birth or at any time during infancy. Jaundice starts in the face and increases with increasing bilirubin levels in the abdomen and then in the legs. Clinical examination cannot estimate bilirubin levels.

The presence of dark urine and pale stools with jaundice after the second week of life strongly suggests biliary atresia.

Complications of Jaundice:

Kernicterus: Brain damage is caused by very high levels of bilirubin, which is rare. In fact, if bilirubin reaches more than 20, it can lead to brainstem damage. The earliest clinical symptoms of kernicterus are: weakness, hypotension, irritability, poor morphological response and poor nutrition, low-pitched crying and vomiting, which appear after the 4 days after birth. By preventing indirect bilirubin elevations and avoiding conditions or drugs that are able to separate bilirubin from alumina, as well as immediate blood transfusions, kernicterus can be prevented.

Phototherapy

An effective and safe way to reduce indirect bilirubin. Phototherapy is started in preterm infants when the bilirubin is at a lower level to prevent the bilirubin from rising to the point where blood transfusions are necessary. In full-term infants, phototherapy starts with a total of 15-18 mg/dL bilirubin. If bilirubin is high, intensive phototherapy is started.

Nursing Care in Phototherapy

Control of baby skin color, control of skin integrity (there is a possibility of burn or rash), control of absorption and excretion and check for dehydration, control of vital signs, control of eyes for tears and their closure by blindfold, frequent change of baby Exposure of the whole body to light, do not use lotions, creams and oils (light burns the skin impregnated with these substances)

Complications of Phototherapy:

Diarrhea, invisible excretion of water, weakness, dehydration, possible retinal damage, red rash

If you have any questions or ambiguities, call the following number:

023-33463401, Neonatal ward of Amir-al-Momenin Hospital