Pediatrics & Therapeutics
ISSN: 2161-0665

Sorte, Pediatr Ther 2018, 8:2
DOI: 10.4172/2161-0665.1000e131

Editorial Open Access

Few Facts: A Premature Baby and Common Problems

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Received date: Apr 02, 2018; **Accepted date:** Apr 26, 2018; **Published date:** Apr 30, 2018

Editorial

The following conditions may occur with premature babies. This does not mean that the baby will surely develop these conditions.

Haemophagocytic lymphohistiocytosis (HLH) is a rare disease in blood related condition with a sepsis-like progression that leads to multiple organ dysfunction syndromes, especially in preterm infants. In Anemia Haemophagocytic lymphohistiocytosis (HLH) is a rare disease with a sepsis-like progression that leads to multiple organ dysfunction syndrome, especially in preterm infants [1]. Hematic cells are responsible for carry oxygen around the body. Babies can get anemic for a variety of reasons, but the common causes are making few new red blood cells in the first few weeks of life, shorter life of red blood cells than that of adults and taking blood for different blood tests.

Anemia is responsible for 20% of maternal mortality worldwide, and it is associated with premature birth, low birth weight, and infant mortality [2]. Anemia may not always need to be treated especially if your baby is not sick. Eventually your baby will make more red blood cells, and as they grow, may be given an additional source of iron to assist the body to make red blood cells. If the anemia needs to be treated this is usually by a transfusion of red blood cells. This blood is obtained from blood bank where it has been meticulously screened.

Apnea is a pause in breathing that usually lasts for longer than 15-20 seconds, usually associated with baby's color changing and a slowing of the heart rate to less than 100 beat per min (bradycardia).

In premature babies in particular, they have an immature respiratory centre in the brain. As the baby grows their breathing will become more regular and therefore apneas will occur less and less. Apneas may also be caused or increased by other situations eg., infection, insufficient oxygen and unstable temperatures to name a few.

Baby may only require some stimulation or medication to stimulate their breathing. If apneas are worsening then they may require assistance with their breathing, ranging from CPAP to mechanical ventilation.

Apnea of prematurity is a result of immaturity. Once baby gets older the apneas resolve, and will not return. If they continue to have pauses in breathing it may be due to some other problem which will be investigated. Necrotizing enterocolitis (NEC) is a severe intestinal disease of premature infants with high mortality. Studies suggest a causative relationship between red blood cell (RBC) transfusion and NEC; however, whether RBC transfusion leads to worse outcomes in NEC is unknown [3].

Jaundice is a yellow color of the skin and whites of the eyes in newborn babies. The yellow color is due to the presence of bilirubin. Bilirubin is produced when red blood cells get old and are broken down by the body. Normally this is done in the liver and then placed in the intestine so it can come out in the stool. Hyperbilirubinemia is a common neonatal condition requiring timely management to prevent acute bilirubin encephalopathy [4].

Babies who are more likely to become jaundiced are premature babies due to immature organs and Babies with a different blood type from their mother.

Low and moderate levels of jaundice are not harmful. Very high levels can be harmful, and may cause brain damage. Baby's bilirubin level will be tested if they become jaundiced, by taking a small amount of blood from a heel prick. This test may be referred to as an SBR or bilirubin level.

Neonatal hyperbilirubinemia is a common reason for neonates to present to the emergency department (ED) [5]. Although clinical practice guidelines provide recommendations for evaluation and therapy, few studies have evaluated ways to apply them effectively in the ED setting. If the bilirubin level is high enough to need treatment, baby will be undressed and placed under phototherapy lights or on a phototherapy blanket in an incubator. This light is a high intensity light that helps break down the bilirubin in the skin. The eyes of the baby will be covered to protect them from so much light.

Phototherapy will continue until the bilirubin level has reached a safe level, usually only a few days but sometimes may be for more than a week.

If baby's bilirubin gets close to harmful levels, the doctor can do an Exchange Transfusion. This procedure involves replacing the baby's blood containing bilirubin with blood from blood bank.

Acute respiratory distress syndrome (ARDS) is a devastating clinical syndrome whose diagnosis and therapy are still in question [6]. Acute respiratory distress syndrome (ARDS) is a life-threatening form of respiratory failure that affects approximately 200000 patients each year in the United States, resulting in nearly 75,000 deaths annually. Globally, ARDS accounts for 10% of intensive care unit admissions, representing more than 3 million patients with ARDS annually [7]. Respiratory Distress Syndrome (RDS) is the most common lung disease of premature infants, due to their incomplete lung development and insufficient Surfactant in the lungs.

Babies with RDS may display the characteristics like rapid breathing, retractions or pulling in of the ribs and centre of the chest with each breath, grunting and flaring or widening of the nostrils with each breath.

If the disease has been severe possible problems in the future, it may show the characteristics like increased severity of colds or other respiratory infections, particularly in the first few years, increased sensitivity to such irritants as smoke and pollution, greater likelihood of wheezing or other asthma-like problems in childhood and May have

injury or scarring of the lungs if the RDS was severe, called Bronchopulmonary Dysplasia (BPD).

Despite several decades of research into treatments for patent ductus arteriosus (PDA), there is continued uncertainty regarding whether, when, and how best to treat PDA and the long-term consequences [8]. This problem is fairly common in premature babies, but is rare in babies born at term. The incidence tends to decrease as the birth weight and gestational age increases.

Treatment of a haemodynamically significant patent ductus arteriosus (PDA) in the very preterm infant has been an accepted approach for several decades. However, the rationale for closure of PDA has recently been challenged due to reports of success with conservative approaches and the lack of evidence for longer-term benefits from treatment. In this article, we address an approach to assess treatment of those babies most likely to benefit [9].

Gastroesophageal reflux disease (GERD) is a common problem in neonatology. Various physiological protective reflex responses provide a plausible biological link between gastro-esophageal reflux and apnea and bradycardia in premature. Many babies bring up some milk or are slightly sick after a feed. Reflux occurs quite frequently in premature babies because their muscle tone is not strongly developed.

Not all babies who develop reflux will be sick in this way. This makes it harder for doctors and nurses to diagnose. Listening to the history of the symptoms and signs displayed by the baby, often gives the doctors and nurses clues to whether reflux is occurring.

Babies with reflux may show the characteristics like frequent vomiting after a feed, back arching due to reflux of the acidic stomach contents into the food tube (esophagus), crying, restlessness and failure to gain weight or weight loss, due to the constant vomiting of feeds.

Babies with reflux but who are not vomiting may display characteristics like arching of their back, screaming and crying, going off feeding, fighting the teat and frequent feeding - i.e. taking only small amounts approximately an ounce of feed nearly every hour.

Other tests may be carried out to assist in the diagnosis of reflux. One such test is a barium swallow, which requires a series of x-rays. This may not show anything if the reflux was not occurring at the time of the x-ray [10].

Treatment will depend on the severity of the reflux and how much trouble caused to the baby.

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