



Diagnosis and Treatment of Bronchopulmonary Dysplasia in Infants

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DESCRIPTION

Bronchopulmonary dysplasia is also known as the chronic lung disease of infancy, chronic lung disease of premature babies, neonatal chronic lung disease or respiratory insufficiency. It is a breathing disorder which causes the irritation of the infant's lungs and leads to abnormal development of lungs. It is quite commonly found in infants who were born two months early.

The symptoms of Bronchopulmonary dysplasia include wheezing, shortness of breath, nostrils flare while breathing, grunting while breathing, due to low oxygen levels, the skin turns to bluish colour, difficulty in breathing.

This disorder is developed after the premature baby receives additional oxygen or has been on ventilator as soon after the birth. In premature babies, the lungs are not fully developed which causes the difficulty in breathing in babies, therefore medical staff provide artificial oxygen or put the babies on ventilator. Mechanical ventilators do the breathing for babies whose lungs are too immature to let them breathe on their own. Oxygen gets to their lungs through a tube inserted into the baby's trachea (windpipe). The machine uses pressure to move air into the baby's stiff, underdeveloped lungs. Many babies do not need a breathing tube, but still need extra oxygen and pressure. Doctors use nasal prongs to send the oxygen and pressure into the baby's lungs. Due to the pressure on the lungs, it affects them leading to Bronchopulmonary dysplasia.

In order to diagnose infants with Bronchopulmonary dysplasia, there were some factors that are considered which include how early the baby was born, how long the baby gets oxygen therapy, the oxygen level the baby gets and the pressure levels that the baby gets to flow air into the lungs. To determine the severity of the disease, chest x-rays and echocardiograms were performed.

Chest X-ray or CT scan or MRI is performed to check the proper growth of lungs, blood test to detect the infections as well as to determine the oxygen and carbon dioxide levels in the blood, echocardiogram to find whether there are any heart diseases that are leading to baby's breathing trouble and pulse oximeter to determine the oxygen levels in the blood.

On providing good nutrition and taking good care of the infants, they can start breathing on their own and can come off artificial oxygen or the use of ventilators. But in some cases, the babies get intense care in the hospitals for a long time until they can breathe on their own without the help of a mechanical ventilator. In some case, the babies might need high frequency ventilation as the continuous low pressure ventilation may cause damage to the lungs.

BPD may lead to respiratory infections such as the flu, Respiratory Syncytial Virus (RSV), and pneumonia. It also causes pulmonary edema which causes fluid buildup in the lungs. Some side effects include dehydration, kidney stones, hearing problems, low potassium, calcium and sodium levels.

To treat the infants with Bronchopulmonary dysplasia, use of different medicines shows a positive effect on lungs and helps baby's lungs work better. The drugs used in the treatment of Bronchopulmonary dysplasia in infants include bronchodilators such as albuterol which helps to keep the airways open, diuretics such as furosemide to reduce fluid buildup in the lungs, inhaled steroids such as budesonide to ease the inflammation in the lungs. A short course of steroids are given into stomach if the baby is suffering from severe BPD. Steroids may have serious short term or long term effects on the baby. As these babies are more likely to develop pneumonia, the babies might get antibiotics to treat these infections.

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