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TREATMENT OF BABIES BORN WITH ASPHYXIA

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Abstract: Perinatal asphyxia is a lack of blood flow or gas exchange to or from the fetus in the period immediately before, during, or after the birth process. Perinatal asphyxia can result in profound systemic and neurologic sequelae due decreased blood flow and/or oxygen to a fetus or infant during the peripartum period. When placental (prenatal) or pulmonary (immediate post-natal) gas exchange is compromised or ceases altogether, there is partial (hypoxia) or complete (anoxia) lack of oxygen to the vital organs. This results in progressive hypoxemia and hypercapnia. If the hypoxemia is severe enough, the tissues and vital organs (muscle, liver, heart, and ultimately the brain) will develop an oxygen debt.

Keywords: asphyxia, cord prolapse, umbilical cord, amniotic fluid embolism, anemia, APGAR.

In severe cases, it can cause serious complications and even be life threatening. Immediate treatment is necessary to ensure that the baby receives enough oxygen. We look at the causes and symptoms of birth asphyxia as well as the potential complications, treatment, and prevention. Other names for birth asphyxia include perinatal asphyxia and neonatal asphyxia. Birth asphyxia occurs when an infant does not receive enough oxygen when born, potentially leading to difficulty breathing. It can happen just before, during, or after birth. Insufficient oxygen supply to the body can cause low levels of oxygen or a buildup of excess acid in the baby's blood. These effects can be life threatening and require immediate treatment. In mild or moderate cases, babies may recover fully. However, in severe cases, birth asphyxia can cause permanent damage to the brain and organs or be fatal. Birth asphyxia rates are lower in developed countries, with a rate of 2 in 1,000 births Trusted Source. In areas of developing countries where there is limited access to neonatal care, this rate increases up to 10 times.

Causes: a variety of factors can cause birth asphyxia. These can relate to the pregnant person or the fetus, and they include:

Umbilical cord prolapse: This birth complication occurs when the umbilical cord leaves the cervix before the baby.

Compression of the umbilical cord

Meconium aspiration syndrome: This syndrome occurs when a baby inhales a mixture of amniotic fluid and meconium, their first feces.

Premature birth: If a baby is born before 37 weeks, their lungs may not yet be fully developed, and they may be unable to breathe properly.

Amniotic fluid embolism: Although rareTrusted Source, this complication — in which amniotic fluid enters the pregnant person's bloodstream and causes an allergic reaction — is very serious.

Uterine rupture: ResearchTrusted Source has shown a significant association between tears in the muscular wall of the uterus and birth asphyxia.

The placenta separates from the uterus: This separation can happen before the birth.

Infection during labor, prolonged or difficult labor, high or low blood pressure in pregnancy

Anemia: In a baby with anemia, the blood cells are not carrying enough oxygen. Not enough oxygen in the pregnant person's blood: The level of oxygen may be insufficient before or during birth.

Risk factors for birth asphyxia includeTrusted Source: the pregnant person being between the ages of 20 and 25 years, multiple births, such as delivering twins or triplets, not attending prenatal care, low birth weight, abnormal position of the fetus during delivery, preeclampsia or eclampsia.

Signs and symptoms of birth asphyxia can occur before, during, or just after birth. Before birth, a baby might have an abnormal fetal heart rate or low blood pH levels, which indicate excess acid. Signs in the baby at birth can indicate a lack of oxygen or blood flow. They include: unusual skin tone, the baby being silent and not crying, low heart rate, weak muscle tone, weak reflexes, lack of breathing or difficulty breathing, amniotic fluid stained with meconium, seizures, poor circulation, the baby being limp or lethargic, low blood pressure, lack of urination, abnormal blood clotting. Another indicator is a low Apgar score. Apgar is a rating system that healthcare professionals use to measure the health of a newborn. Apgar stands for:

Appearance Pulse Grimace Activity Respiration

Healthcare professionals will give a baby a rating from 0 to 10, depending on the health of their: skin tone, heart rate, muscle tone, reflexes, breathing. A low Apgar score (between 0 and 3) that lasts for more than 5 minutes can indicate birth asphyxia.

Treatment

The type of treatment will depend on the severity and cause of the birth asphyxia. Immediate treatments include: providing extra oxygen to the pregnant person if birth asphyxia happens before delivery, emergency or cesarean delivery, suctioning fluid away from the airways in the case of meconium aspiration syndrome, putting the newborn on a respirator.

For severe cases of birth asphyxia, treatment may include: placing the baby in a hyperbaric oxygen tank, which supplies 100% oxygen to the baby, induced hypothermia to cool the body and help prevent brain damage, medication to regulate blood pressure, dialysis to support the kidneys and remove excess waste from the bodu, medication to help control seizures, intravenous (IV) nutrition, a breathing tube to supply nitric oxide, life support with a heart and lung pump.

In conclusion, low oxygen levels may decrease a baby's heart rate, blood pressure and blood flow out of the heart. This may limit the blood flow to organs and tissues, leading to improper cell function or damage. Organs typically affected by lowered oxygen include the brain, heart and blood vessels, gastrointestinal tract, lungs and kidneys.

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