Meconium Aspiration

**Definition:** Meconium is a medical term for a baby's first stool. Meconium is composed of amniotic fluid, braceal mucus, bile, and shed cells of the skin and gastrointestinal tract. Meconium is thick, sticky, and dark green in color and may be seen in amniotic fluid after 43 weeks of pregnancy. Meconium aspiration occurs when the fetus inside the uterus or baby aspirates meconium and amniotic fluid into the lungs with the first breath after birth. Evaluation of amniotic fluid impregnated with meconium is important and necessary in terms of obstetric and pediatric care. Ammonia aspiration is a common cause of neonatal respiratory distress and on the other hand, the presence of meconium in amniotic fluid occurs in 20% of pregnancies, up to 5% of which is meconium aspiration syndrome.

This syndrome is a problem for term babies.

**Cause:**

Approximately 5 to 10 percent of births are contaminated with meconium and may be aspirated. This syndrome is a serious disease and can cause severe illness and even death in infants. This condition usually occurs when the fetus is under stress due to lack of oxygen with increased peristaltic movements and loosening of the anus sphincter. As soon as meconium enters the amniotic fluid, it is possible for the fetus to carry a mixture of meconium and amniotic fluid into the lungs while breathing. Depending on the amount and consistency of inhaled meconium, partial or complete airway obstruction occurs, leading to difficulty in breathing and reduced gas exchange in the lungs. Meconium are stimulants that cause inflammation in the airways. **Risk factors include:** maternal diabetes, maternal hypertension, difficult labor, fetal distress, and intrauterine hypoxia.

**Prevention:**

Risk factors should be identified as soon as possible. Tell your doctor if you have meconium in the amniotic fluid at the time of rupture of the amniotic fluid or if it has dark green spots and streaks. During labor, the fetus should be monitored for heart rate for any signs of fetal distress.

**Symptoms:**

- Dark green spots or streaks in amniotic fluid
- Infant respiratory distress
- Loose baby at birth
- Infant cyanosis
- Circulatory changes (systemic hypotension)
- Fetal bradycardia and low Apgar score
- In the study of arterial blood gases (decrease in pH and increase in PCO2)
- Rough granular pattern with irregular ventilation on X-Ray

**Treatment:**

The goal of treatment is to correct hypoxia and acidosis to facilitate dilation of the pulmonary arteries. During delivery, the baby's mouth should be sucked as soon as the baby's head comes out. In the presence of concentrated meconium and respiratory distress, a tube is inserted into the baby's
trachea and the suction is done while removing the endotracheal tube. This procedure is repeated until the meconium is not found in the contents of the suction. After delivery, the baby is hospitalized to the intensive care ward and treated with respiratory physiotherapy, antibiotic therapy, warmer to maintain body temperature and, if necessary, mechanical ventilation.

Nursing measures:

- Monitoring infants for symptoms of meconium aspiration and informing physician
- Lavaging stomach contents with normal saline to remove meconium
- Controlling the baby's blood pressure, heart rate, respiratory status and body temperature accurately
- Controlling apnea and respiratory distress
- Examining the baby for a ventilator
- Performing respiratory physiotherapy before suction
- Controlling absorption and excretion strictly, because these patients are at risk for kidney failure.
- Controlling arterial blood gases regularly, these infants are generally acidosis, which may be prescribed for the treatment of sodium bicarbonate injection.
- Performing oxygen therapy and controlling blood oxygenation

Complications:

- Aspiration pneumonia
- Pneumothorax
- Brain damage due to lack of oxygen
- Metabolic disorder
- Persistent respiratory distress for several days

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

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