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**SEVERE BIRTH ASPHYXIA ASSOCIATED WITH MECONIUM  
ASPIRATION SYNDROME AND COMPLICATED BY SEIZURE  
SYNDROME, POSTASPIRATION PNEUMONIA AND ISCHEMIC  
NECROSIS OF THE FINGER**

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Introduction. Birth asphyxia is the condition caused by a lack of oxygen supply of organs and systems that occurs within close temporal proximity to labor and delivery (peripartum). The majority of cases of perinatal asphyxia occur intrapartum, although 20% occur antepartum and other cases occur in the early postnatal period. In neonate, the lack of oxygen may lead to multi-organ failure (due to severe metabolic acidosis) with brain involvement as the major organ of concern – hypoxic-ischemic encephalopathy (HIE). The incidence of birth asphyxia is 2/1000 births in developed countries, but the rate is up to 10 times higher in developing countries where there may be limited access to maternal and neonatal care. Of those affected infants: 15-20% die in the neonatal period, up to 25% of survivors are left with permanent neurological deficits.

Aim: to discuss etiology, risk factors, clinical presentation of severe birth asphyxia (HIE), its consequences and how to diagnose and manage such complicated case.

Materials and methods. Clinical case.

Results. Newborn girl was admitted to the NICU directly after birth and full complex of resuscitation measures with primary diagnosis: “Severe birth asphyxia. Meconium aspiration syndrome”.

Anamnesis: mother is 30 y. o., baby is from 2nd pregnancy (in 1st – miscarriage), 1<sup>st</sup> delivery in 40 weeks of gestation via vaginal delivery (using forceps due to fetal distress), meconium stained amniotic fluid, tight nuchal cord.

Birth weight – 2800 g, body length – 48 cm, head circumference – 34 cm – those parameters are appropriate for gestational age (according to growth chart for newborns).

Clinical presentation: very bad condition, cyanosis, non-effective spontaneous breathing, hypotension, oliguria, convulsions. Apgar score assessment – 1/3/3/3/3, O<sub>2</sub>-saturation of the blood – 73%, body temperature – 36.70C, pH of the blood – 6.7. Multi-organ failure has developed. On the 10th day of life: signs of right-side pneumonia were detected. On the 15th day of life: paleness of the second finger on the right hand appeared, then demarcation line was detected and mummification of the distal and middle phalanx occurred.

Diagnostic procedures: ABG (surveillance), CBC, glucose, electrolytes, CRP, blood culture, chest and right hand X-ray, ECG, EEG.

Treatment: respiratory therapy (intubation, mechanical ventilation, nCPAP O<sub>2</sub>- supply), inotropic support (Dopamine, Dobutamine), metabolic acidosis correction (Sodium Bicarbonate), intravenous fluid (Dextrose, Aminoacids, Normal Saline, Calcium Gluconate, Potassium Chloride), anticonvulsants (Sodium Thiopental), diuretics (Furosemide), antibacterial treatment (Ampicillin, Cefoperazone, Amikacin).

Surgical treatment: Necrotomy of the mummified distal and middle phalanx of the second finger on the right hand.

Outcome: Baby-girl was discharged on 38th day of life with satisfactory general condition, weight – 3715 g, breast-feeding, no convulsions. Paediatric, surgical, and neurological follow up was recommended.

Conclusion. Presented newborn has suffered from severe birth asphyxia with meconium aspiration syndrome, which led to serious complications. A correct diagnosis followed by adequate well-timed management helped to save girl's life and prevent permanent neurological disorders.