ACUTE CYTOMEGALOVIRUS INFECTION IN PRETERM BORN INFANT.

Jelena Rusakova^{1,2}, Ilze Meldere²

¹ University of Latvia, Riga, Latvia

² Children's Clinical University Hospital, Riga, Latvia

BACKGROUND:

Cytomegalovirus (CMV) belongs to *Herpesviridae* family. CMV infection is one of the most common viral infections of the newborn. Common mechanisms of the infection include perinatal exposure to infected genitalia secrete during birth or postpartum ingestion of breast milk containing CMV. Not always perinatal exposure to CMV is associated with clinical manifestation of disease. However, perinatal infection to premature infants can result in severe, disseminated infection, associated with end organ damage and death.

CLINICAL CASE:

Preterm born infant-girl (28th week of gestation, weight 1320 g) was admitted to neonatal Intensive care unit due to respiratory distress. She received respiratory support with CPAP, surfactant application, antibacterial therapy and parenteral nutrition. She was fed by breast milk. At the 9th day of life her condition deteriorated: with respiratory insufficiency and lung bleeding secondary to hypocoagulation. Mechanical lung ventilation was started. Since 14th day of life, **thrombocytopenia** progressed (*chart 1*). She received multiple platelets transfusions. Despite of broad spectrum antibacterial therapy, blood component transfusions, repeated surfactant application, the condition continued to deteriorate with **pneumonitis** on x-ray examination progressing and increasing the **hyperbilirubinemia** (at the expense of direct bilirubine, *chart 2,3*). She had unexplained episodes of fever with rising of CRP and IL-6. All blood cultures were negatives.

At the 38th day of life physical examination with jaundice, generalized **petechial** rash, auscultated bilateral crackles in lungs, increased size of abdomen: **hepatomegaly** and **splenomegaly**. **CMV antigen** was confirmed in urine sample. PCR in blood was positive to CMV with viral titer of **4.620 copies/ml**. Lumbar puncture for CMV antigen was negative. Anti-CMV IgG **1233.6 AU/ml** (positive), IgM – negative. Diagnosis pneumonitis, hepatitis and thrombocytopenia secondary to postnatal CMV infection was established. The therapy with **ganciclovir** at dose of **12 mg/kg/day** was started. Child received 5 doses of human immunoglobulin due to thrombocytopenia without any significant improvement. Despite of treatment, hepatic failure progressed, ascites appeared. The hypocoagulation with repeated gastrointestinal bleeding repeated. Respiratory insufficiency and hemodynamic problems increased and patient died on 57th day of life.

TAKE-HOME MESSAGE:

1. CMV infection must be kept in mind, if child have pneumonitis, hepatitis and unexplained thrombocytopenia.
2. If premature child has a sign of sepsis with negative blood cultures results, cytomegalovirus infection has to be excluded.
3. In immunocompetent persons CMV infection is usually asymptomatic, but in preterm infants, especially, low birth weight, CMV infection could be fatal.

Chart 1. Dynamic of platelets count.

Chart 2. Dynamic of bilirubin level.

Chart 3. Dynamic of liver enzyme level.