



## **Blood parameters at cordocentesis in cytomegalovirus infected fetuses based on gestational age and severity of affection**

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### **Objective**

To compare the parameters of selected fetal blood tests in CMV infected fetuses, based on the gestational age at the time of cordocentesis ( $\leq 28$  weeks and  $> 28$  weeks), and the severity of fetal brain damage.

### **Methods**

Retrospective analysis was conducted of data collected prospectively. CMV infection was confirmed by viral DNA in amniotic fluid in fetuses with ultrasound findings of infection at second or third trimester routine scans. The severity of CMV infection was classified according to prenatal US and/or MRI abnormalities. Fetal blood sampling parameters included: platelet count, gamma-glutamyl transpeptidase (GGT), B2-microglobulin, specific IgM and DNAemia. Blood parameters were compared based on the gestational age at the time of cordocentesis and to the severity of fetal brain damage.

### **Results**

Fetal blood sampling was obtained in 20 cases, 10 were  $\leq 28$  weeks and 10  $>28$  weeks of gestation. Of those fetuses  $\leq 28$  weeks (mean 21.7, SD 1.2), 7 were severely affected and 3 were mildly affected and of those  $>28$  weeks (mean 30.8, SD 1.9 weeks), 8 were severely affected and 2 were mildly affected. Compared to fetuses over 28 weeks, those  $\leq 28$  weeks had a significantly lower platelet count, higher levels of B2 microglobulin and a positive IgM. GGT levels  $\geq 120$  UI/l was significantly associated with severe brain damage, even after adjusting for gestational age.

### **Conclusion**

In CMV infected fetuses, fetal blood test results were significantly more anomalous in those below 28 weeks of gestation. The only biological parameter significantly associated with severe brain damage at any gestational age was high levels of GGT. Further research is required to validate these findings in the assessment of these fetuses.