

## PLASMA VISCOSITY SCREENING IN NEWBORNS

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Blood viscosity determines three factors: deformity of red cells, hematocrit and plasma viscosity. These parameters in newborns are different than in adults.

Aim of study: Standard evaluation for risk of hyperviscosity syndrome was made through discovering and monitoring polycythemia and elevated hematocrit. We included plasma viscosity measurement as an attempt for a more precise evaluation of the blood viscosity. Materials and methods: In 40 healthy, term babies we measured capillary hematocrit, red cells' number and shape, and plasma viscosity in the first day of life, up to 8 hours after birth. The hematocrit was measured by means of automatic electronic instrument, while plasma viscosity was measured on a "Fresenius" plasmaviscosity-meter, fully automatised, operating at 37°C. Results: In 20 asymptomatic babies we found elevated hematocrit ( $Htc > 60$ ,  $x=65 \pm 0,11$ ) and they were treated as being risky of developing hyperviscosity syndrome. In 16 healthy newborns we found plasma viscosity higher than 1,1 mPas ( $x=1,1 \pm 0,014$ ), while 12 of them had normal hematocrit. These babies were also treated as risky. We didn't find any significant difference in plasma viscosity between babies with high and those with normal hematocrit. Conclusion: The preliminary results suggest a need for a future routine (regular) plasma viscosity measurement as a means for more precise screening of the hyper viscosity syndrome risk with a symptomatic newborns. This approach would contribute to a better selection of babies for additional laboratory researches, monitoring and treatment.

