

SEVERE FETAL ACIDEMIA DOES NOT PREDICT THE GRADE OF HYPOXIC-ISCHEMIC ENCEPHALOPATHY (HIE) ASSIGNED BEFORE THE INCLUSION IN HYPOTHERMIC THERAPY

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Background and aims: Severe acidemia at birth has been related with a greater risk of HIE, neonatal seizures and death. We questioned if the degree of fetal acidemia correlates with indicators of neonatal morbidity as the severity of HIE before starting hypothermia, magnetic resonance imaging and neonatal death in asphyxiated infants evaluated to be included in a program of hypothermia.

Methods: Since December of 2008 a common program of therapeutic hypothermia was delivered at 3 university-based centers in Spain. The severity of HIE was graded by a classical semi quantitative scale and a numeric scale particularly designed for this purpose. MRI studies were evaluated blinded to clinical data using an empirical MRI scoring system.

Results: 49 infants with HIE born at 34 weeks or longer gestation were included. The mean umbilical cord artery pH was $6,90\pm 0.17$. Four infants had mild, 20 moderate and 25 severe HIE. Except for the 4 with mild HIE, all patients received total body hypothermia. Umbilical cord pH correlated with Apgar score at one minute ($p=0.04$) and with the need of advanced resuscitation ($p=0.021$). However, it did not correlate with Apgar score at five minutes, the severity of clinical HIE before hypothermia by means of the semiquantitative, neither the numeric scale, the score of MRI, nor neonatal death.

Conclusions: The depth of fetal acidemia at birth did not correlate with the severity of HIE and did not facilitate the identification of infants who developed more severe HIE within the first 6 hours of life.