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Can MCA Doppler predict mortality in fetuses with congenital hydrocephalus?

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Objective: The objective of this study is to investigate the impact of abnormal middle cerebral artery (MCA) Doppler on the perinatal mortality in fetuses with congenital hydrocephalus (CH).

Methods: A prospective study of all fetuses with CH who delivered at our hospital over a period of 7 years. Data were obtained from the ultrasound, labor room and intensive neonatal care unit (NICU) database. The perinatal mortality rates were evaluated in relation to the following measures, associated congenital anomalies, cortical mantle thickness (CMT), and MCA Doppler abnormalities (absent or reversed diastole). The main outcome measure was perinatal mortality rate in relation to MCA Doppler changes.

Results: A total of 85 cases of CH were diagnosed and managed. The birth prevalence of CH was 2.44 per 1000 live births. On one hand, the perinatal mortality rate was higher in those fetuses with non-isolated hydrocephalus, (37.25% (19/51)) versus (35.29% (12/34), $p=0.854$) and in those cases with CMT <10 mm, 38.78% (19/49) versus 33.33% (12/36) in those with CMT >10 mm, $p=0.607$. On the other hand, the perinatal mortality rate was significantly higher in those fetuses with abnormal MCA Doppler, 100% (13/13) versus 25% (18/72), OR=0.78, 95% CI (5.52–44085124.60), $p<0.001$.

Conclusions: Abnormal fetal MCA Doppler (absent or reversed diastole) appears to be a poor prognostic indicator with significantly high perinatal mortality in fetuses with CH.

Biography

Bahauddin Ibraheem Sallout is a certified Maternal Fetal Medicine (MFM) Consultant from University of Ottawa, Canada, with American Specialty in Ultrasound in Obstetrics and Gynecology. He has special training in Fetal Echocardiograph and 3D/4D Sonography. He developed the Ultrasound Unit and established the MFM Department, and currently, the Medical Director for the Women's Specialized Hospital, King Fahad Medical City, Riyadh, Saudi Arabia. He has 15 publications in the field of Obstetrics Ultrasound and Fetal Medicine, and he has participated and presented in many international and local conferences.

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