

Prescriptive Reference Standards of Third-Trimester Cerebroplacental Ratio and Its Physiological Determinants

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Abstract

Objective:To construct valid reference standards reflecting optimal cerebroplacental ratio and to explore its physiological determinants.**Methods:**A cohort of 391 low-risk pregnancies of singleton pregnancies of nonmalformed fetuses without maternal medical conditions and with normal perinatal outcomes was created. Doppler measurements of the middle cerebral artery and umbilical artery were performed at 24-42 weeks. Reference standards were produced, and the influence of physiological determinants was explored by nonparametric quantile regression. The derived standards were validated in a cohort of 200 low-risk pregnancies.**Results:**Maternal body mass index was significantly associated with the 5th centile of the cerebroplacental ratio. For each additional unit of body mass index, the 5th centile was on average 0.014 lower. The derived 5th, 10th, and 50th centiles selected in the validation cohort were 5, 9.5, and 51% of the measurements.**Conclusions:**This study provides methodologically sound prescriptive standards and suggests that maternal body mass index is a determinant of a cutoff commonly used for decision-making.

Palabras clave

Palabras clave de autor:[Cerebroplacental ratio](#); [Color Doppler ultrasonography](#); [Doppler ultrasound](#); [Fetal growth restriction](#); [Normality ranges](#)

KeyWords Plus:[FETAL-GROWTH RESTRICTION](#); [MIDDLE CEREBRAL-ARTERY](#); [PULSATILITY INDEX](#); [DOPPLER](#); [MANAGEMENT](#); [CONSENSUS](#)

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