

Cerebral redistribution in late-onset fetal growth restriction: not always the same story (Winner of the SIMP EUBRAIN Award, in memory of J. Claudine Larroche for the study on PVL in 1962)

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Objective. To evaluate perinatal outcomes of late-onset FGR fetuses showing cerebral redistribution in relation to modifications of Doppler components of cerebroplacental ratio (CPR).

Materials and Methods. Multicentre retrospective study including non-anomalous singleton pregnancies complicated by late-onset FGR featuring CPR < 5° P. Perinatal outcomes were compared across four subgroups:

1. fetuses showing UAPI < 95° P and MCAPI > 5° P;
2. UAPI > 95° P and MCAPI > 5° P;
3. UAPI < 95° P and MCAPI < 5° P;
4. UAPI > 95° P and MCAPI < 5° P.

Results. 308 cases were included: 33.4% belonged to group 1, 28.8% group 2, 20.5% group 3, 17.2% group 4. Group 2 was associated with lower gestational age at delivery (37+0+2+1 vs 38+0+1+6, 37+5+1+6 and 37+5+1+6 weeks for groups 1,

3 and 4 respectively, p = 0.01) and birthweight (2178+509 vs 2451+470, 2362+496 and 2416+450 g for groups 1, 3 and 4 respectively, p < 0.01), higher incidence of cesarean delivery (49.4% vs 26.5%, 37.1% and 34.0% for groups 1, 3 and 4 respectively, p = 0.04), delivery < 37 weeks (47.2% vs 20.4%, 25.4% and 30.2%, for groups 1, 3 and 4 respectively, p < 0.01), need for respiratory support at birth (22.5% vs 7.8%, 7.9% and 9.4% for groups 1, 3 and 4 respectively, p < 0.01), NICU admission (42.7% vs 20.4%, 20.6% and 34.0% for groups 1, 3 and 4 respectively, p < 0.01), composite adverse outcome (38.2% vs 16.5%, 15.9% and 24.5% for groups 1, 3 and 4 respectively, p < 0.01) and longer neonatal hospital admission (8 vs 4, 5 and 6) for groups 1, 3 and 4, respectively, p < 0.01).

Conclusions. The worst perinatal outcomes in late-onset FGR with cerebral redistribution occur when characterized by increased UAPI but normal MCAPI.