

Relationship between folate transporters expression in human placentas at term and birth weights

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© 2015 Elsevier Ltd. All rights reserved. Background Adequate folate levels are essential for successful pregnancy outcomes. We aimed to study the relationship between placental mRNA and protein levels of folate transporters to birth weight. Methods Placental folate transporters (FOLR1, RFC1 and HCP1/PCFT) mRNA and protein levels in basal (BP) and chorionic plate (CP) of small (SGA), appropriate (AGA) and large (LGA) for gestational age term infants (>37 weeks gestation, n = 111) were determined by real-time PCR and Western blot respectively. Results FOLR1 and HCP1/PCFT mRNA were lower in both plates of SGA and LGA placentas compared to AGA ($p < 0.01$) and RFC1 mRNA was lower only in CP ($p < 0.02$). RFC1 protein levels were lower in BP of SGA ($p < 0.05$) and LGA ($p < 0.01$), and FOLR1 protein levels were lower in CP of SGA ($p < 0.02$) and LGA ($p < 0.01$) groups compared to AGA. HCP1/PCFT protein levels remained unchanged in all groups. Conclusion Placentas of SGA and LGA groups showed a reduc