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Folate biomarkers in women with recurrent pregnancy loss taking 5 mg of folic acid daily

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Statement of the Problem: Recurrent pregnancy loss (RPL) was recently redefined as >2 consecutive pregnancy losses prior to 20 weeks from the last menstrual period, excluding ectopic, molar and biochemical pregnancies. Folic acid (FA) is crucial for cell replication and to prevent neural tube defects (NTDs). In the clinical field, high-doses of FA have been prescribed to this specific group. We aimed to verify folate biomarkers in women with RPL after 26 weeks of 5mg of FA daily.

Methodology: Prospective study including 27 women with RPL, taking 5 mg of FA daily. Blood was collected after 6 weeks (T1) and 26 weeks (T2) of daily FA. Serum (SF) and red blood cell (RBC) folate, vitamin B12 and blood count were assessed.

Results: Values are presented as median and interquartile ranges. At T1, SF and RBC folate concentrations were 54.4(29.7-84) and 1129(681-1410)nmol/L. Nineteen(70.4%) women had elevated SF(>45nmol/L) and 16(59.3%) had RBC folate >906nmol/L, the optimal level preconized to women in reproductive age. At T2, 15 women were regular using 5 mg of FA, 8 were not using and 4 dropped out of the study. Eleven(40.7%) had elevated SF and 17(63%) had RBC>906nmol/L. No difference was found after a paired comparison of SF and RBC between T1 and T2. At T2, women with regular use SF(60.9(41.1-80.8) vs 21.5(10-36.4)nmol/L, folate(1390(1085-1510) vs 1036(597-1241)nmol/L, P=0.014) those that stopped taking deficiency(<148pmol/L). Vitamin B12 (412(321-465) vs 324(269-419)pmol/L; P=0.007). Two(7.4%) women had anemia only at T1.

Conclusion: No difference in SF and RBC folate was found comparing 6 and 26 weeks, both for those regularly used FA or not. However, women that stopped taking FA after 26 weeks had lower concentrations of SF compared to those that kept taking of FA(N=15) had higher values of P=0.003) and RBC than FA(N=8). Nobody had vitamin B12 was higher at T2 than T1.

Biography

Cecilia Zanin Palchetti is a dietitian and post-doctoral fellow in the Department of Clinical and Toxicological Analysis, School of Pharmaceutical Sciences at the University of Sao Paulo. She has experience in the assessment of folate status biomarkers, micronutrients, food fortification and dietary intake (current research) and in the assessment of the nutritional status, body composition and bone mineral density of HIV positive children (MSc and PhD degrees at Federal University of São Paulo, Brazil). Recently, she has worked as a volunteer for two months in the Evidence and Programme Guidance Unit, Department of Nutrition for Health and Development, World Health Organization, Geneva, Switzerland.

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