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Association between maternal and fetal factors and quality of cord blood as a source of stem cells

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The umbilical cord blood has the capacity of hematopoietic reconstitution, which is a useful alternative source of stem cells for transplant. Studies report maternal and fetal variables that can affect the quality of the umbilical cord blood. Evaluate the maternal and fetal factors and the quality markers of the umbilical cord samples performed in a public bank. Cross-sectional observational study was done. Census of 458 donation records, from September/2009 to March/2013 at HRSJ-HMG. Data obtained from the data collection instrument were used in Excel and exported to SPSS 16.0. The variables were described in absolute and relative frequency, medians and standard deviations. The Chi-square test tested the homogeneity of proportions. This study was approved by the research ethics committee of HEMOSC. There was a higher prevalence of women between 18 and 29 years old (62.8%), gestational age ≥ 40 weeks (55.2%), vaginal delivery (51.3%), primiparous (41.4%), boy new born (54.4%) and with weight between 3,000 and 3,499 grams (41.8%). Sample volumes ranged from 71.6 to 275.2 ml; total nucleated cells (TNC) ranged from 31×10^8 to 4.77×10^8 , cd34+ cells ranged from 0.05 to 1.23%. About the volume, there was statistical significance with gestational age > 38 weeks ($p=0.001$), cesarean delivery ($p<0.001$) and newborn weight $> 3,500$ g ($p<0.001$). The count of TNC was positively affected by cesarean ($p=0.022$) and by the newborn weight $> 3,500$ grams ($p<0.001$). There was no statistical significance between the studied variables and the cd34+ cells. Delivery mode and the newborn weight have influence in the umbilical cord blood volume and in the TNC count. The gestational age have influence in the umbilical cord blood volume.

Biography

Rodrigo Dias Nunes is a graduated Medical Doctor with honors from the Federal University of Saint Catherine and has Bachelor's degree recognition in Medicine from the University of Porto. Specialized in Gynecology and Obstetrics and Gynecological Endoscopy, he is the coordinator Professor at the University of the South of Saint Catherine and the Head of Gynecology and Obstetrics service of the Regional Hospital of Saint Joseph. He is a member of the Committee of Obstetric Emergency by the Brazilian Federation of Gynecology and Obstetrics. He has published many papers in reputed journals, written many book chapters and manuals, has more than 50 articles concluded or in progress and has been serving as an Editorial Board Member.

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