

## Effect of Temperature of Transportation and Processing Time After Umbilical Cord Blood Collection in the Recovery of Stem Cells

**Baraldi, N.A.<sup>1</sup>, Fornaziero, A.S.<sup>1</sup>, Kanda, C.<sup>1</sup>, Gonçalves, P.<sup>1</sup>, Banhado, D.C.R.<sup>1</sup>, Cruz-Silva, I.<sup>2</sup>, Gozzo, A.J.<sup>2</sup>, Osava, R.<sup>1,3</sup>, Araújo, M.S.<sup>2</sup> and Nunes, V.A.<sup>1,2</sup>**

<sup>1</sup>Escola de Artes, Ciências e Humanidades, <sup>2</sup>Department of Biochemistry, UNIFESP, <sup>3</sup>Amparo Maternal; São Paulo, SP, Brazil

Human umbilical cord blood (UCB) has been considered an important source of stem cells (SC), and has been explored in research and regenerative medicine. The collection and processing of UCB units must occur within 48 hours and the storage temperature should be between 4 and 24°C; however it has not been established the best period for processing after collection and the adequate temperature for units transportation, in order to maintain cell integrity and efficiency in SC recovery. The aim this work was to evaluate some conditions of transportation and processing of UCB to ensure high cell viability and recovery. Blood samples (10 mL) were collected from 11 cords of newborns under mother informed consent in the Amparo Maternal. Collection was performed *ex utero* and UCB was drained into a tube containing 200 µM EDTA. Samples were stored at 4°C or at room temperature (RT) and processed 2 or 24 hours after collection. Mononuclear cells, fraction where SC are found, were separated by density gradient (Histopaque 1,077). Cells were counted in Neubauer chamber and cell viability was analyzed using 0.4% Trypan blue. There was no statistical difference in the number of total cells when UCB was stored at 4°C or RT. No significant differences were observed when blood was processed 2 or 24 hours after collection ( $p < 0.05$ ). Regarding the amount of living cells, we concluded that efficiency in cell recovery is similar when UCB units are stored at 4°C or RT and processed 2 or 24 hours after collection, which gives the researchers many possibilities to work in the laboratory. (Supported by FAPESP and CNPq)