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Human neonates display altered *ex vivo* monokine production related to healthy adults

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The inflammatory response plays an important role during the induction of several neonatal diseases. Previous studies have shown that during newborn infections, the natural imbalance between pro- and anti-inflammatory responses shifts towards the production of pro-inflammatory cytokines. In this study, we employed an array system to detect 9 pro- and anti-inflammatory cytokines and performed ELISA for 6 other cytokines. We then compared the immune response profiling in umbilical cord blood (UV) plasma samples with circulating levels in otherwise healthy donors (HD). Concentrations of *ex vivo* monokine levels, such as interleukins (IL)-18, IL-23 and IL-27, were profoundly reduced in the UV in relation to the HD group (p-values of 0.003, 0.009 and <0.0001, respectively). Conversely, UV-plasmatic TGF-β1 levels displayed marked enhancement (p-value=0.005) in relation to HD. Several factors may be implicated in these neonatal alterations and additional characterization of a broader cytokine panel is warranted to reveal other possible candidates.

Biography

Paulo R Z Antas has completed his PhD from Fiocruz and Post-doctoral studies from Vanderbilt University Medical Center. He is the Vice-Head of Clinical Immunology Laboratory, Oswaldo Cruz Institute-Fiocruz, a public health organization in Brazil. He has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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