Conclusion Our results showed that the mean survival time for CRC depends on some risk factors. It seems that, evaluation of these risk factors is necessary in lower age.

**Methods** A total of 145 CB units were collected from full-term vaginal deliveries at a single hospital. Immediately after delivery, a segment of the umbilical cord was double clamped, and arterial CB was analysed to determine the acid-base status and gases. Venous CB was collected into a sterile collection bag and processed for cell separation within 24 h collection. The relationship between umbilical arterial acid-base status, each gas value, and the yield of mononuclear cells and CD34 cells was analysed.

Results Statistically significant correlations were observed between the net weight of CB and the total mononuclear and CD34 cell counts. In addition, there was a negative correlation between the mononuclear cell counts and pH, but a positive correlation between the mononuclear cell counts and pCO₂. However, no significant differences were observed between the nulliparous and multiparous groups in terms of the net weight of CB, total mononuclear cell counts and total CD34 cell counts.

Conclusions The findings of the present study show that the mononuclear cell counts are correlated with arterial CB pH and pCO₂, suggesting the involvement of fetal hypoxia on the yield of mononuclear cells.

**Purpose** To investigate the influence of umbilical cord blood (CB) acid-base status and gas values on the yield of mononuclear cells and CD34 cells, pH, pCO₂, pO₂, HCO₃⁻ and base excess were measured in arterial CB samples obtained from normal full-term deliveries. The relationship of these values with the yield of mononuclear cells and CD34 cells detected in venous CB was analysed.