

## Preterm Newborn

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### **Bioelectrical impedance vector analysis (BIVA) in stable preterm newborns.**

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#### **OBJECTIVE:**

To observe the behavior of the plotted vectors on the RXc (R - resistance - and Xc - reactance corrected for body height/length) graph through bioelectrical impedance analysis (BIVA) and phase angle (PA) values in stable premature infants, considering the hypothesis that preterm infants present vector behavior on BIVA suggestive of less total body water and soft tissues, compared to reference data for term infants.

#### **METHODS:**

Cross-sectional study, including preterm neonates of both genders, in-patients admitted to an intermediate care unit at a tertiary care hospital. Data on delivery, diet and bioelectrical impedance (800 mA, 50 kHz) were collected. The graphs and vector analysis were performed with the BIVA software.

#### **RESULTS:**

A total of 108 preterm infants were studied, separated according to age (< 7 days and ≥ 7 days). Most of the premature babies were without the normal range (above the 95% tolerance intervals) existing in literature for term newborn infants and there was a tendency to dispersion of the points in the upper right quadrant, RXc plan. The PA was 4.92° (±2.18) for newborns < 7 days and 4.34° (±2.37) for newborns ≥ 7 days.

#### **CONCLUSION:**

Premature infants behave similarly in terms of BIVA and most of them have less absolute body water, presenting less fat free mass and fat mass in absolute values, compared to term newborn infants.