Iatrogenic blood loss in extreme preterm infants due to frequent laboratory tests | 1

**Extreme preterm infants lose almost one-third of their total blood volume in the first month of life as a result of blood loss due to multiple blood draws for laboratory investigations, and procedures**” Counsilman et al (2019).

**Abstract:**

Objective: To evaluate the cumulative amount of iatrogenic blood loss in extreme preterm infants during the first month of life.

Study design: We performed an observational cohort study in 20 extreme preterm infants (gestational age <28 weeks). We recorded the amount of blood drawn for laboratory testing during the first 4 weeks of life, the number of punctures for phlebotomy and intravenous access and the amount of blood loss associated with these procedures. We compared the cumulative blood loss to the estimated total blood volume (85 ml/kg body weight) and to the total volume of red blood cell (RBC) transfusions administered during the same study period. Results: The median cumulative iatrogenic blood loss was 24.2 ml/kg (interquartile range (IQR) 15.8-30.3 ml/kg) per patient, which equals a median of 28.5% (IQR 18.6-35.6%) of the total blood volume. Blood loss was higher in the most extreme preterm infants (30.2 ml/kg at 24 weeks versus 15.9 ml/kg at 27 weeks). The median number of punctures per infant was 47 (IQR 26-56) during the first 4 weeks of life. The median volume of RBC transfusions administered during the study period was 30 ml/kg, slightly more than the cumulative blood loss (24.2 ml/kg). Conclusions: Extreme preterm infants lose almost one-third of their total blood volume in the first month of life as a result of blood loss due to multiple blood draws for laboratory investigations, and procedures.

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