Abstract:

OBJECTIVES: (a) To quantify the volume of diagnostic blood loss (DBL) and evaluate its impact on intensive care unit (ICU) patients, (b) examine the correlation between severity of disease and DBL and (c) identify potentially vulnerable patient subgroups.

BACKGROUND: Iatrogenic anaemia is an important problem amongst ICU patients, with significant daily DBL.

METHODS: A single-centre observational cohort study was conducted at St George’s Hospital, London, cardiac and general ICU. Forty patients were included in the study. Variables measured were volume of blood collected and discarded on a daily basis, Acute Physiology and Chronic Health Evaluation (APACHE) II score, frequency of phlebotomy, haemoglobin concentration before and after admission to ICU, reason for admission and complications developed in ICU.

RESULTS: Mean (SD) total volume drawn per patient per day over 4 days was 86.3 mL (19.58). Nearly 30% of the total blood taken was discarded. There was a strong positive correlation between patients admitted because of sepsis and volume of DBL (P < .01), APACHE II score and volume taken (P = .01), patients who developed respiratory failure requiring ventilation and volume taken (P < .01) and patients who had received a blood transfusion and volume taken (P < .01). Haemoglobin concentration on discharge was negatively associated with DBL volume (P < .01).

CONCLUSION: High volumes of blood were taken and discarded from the study population, possibly reflecting the fact that there are no guidelines for ICU staff in terms of the amount of blood that needs to be withdrawn in order to “prime” access lines.

Reference: