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Predicting Haemoglobin Level within 6 Hours and After 24 Hours After a Caesarean Section: Are There Such Formulas to Calculate Them?

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Background: We measured Haemoglobin (Hb) levels within 6 hours and after 24 hours in 134 Caesarean Section cases in Hospital Universiti Sains Malaysia in 2017.

Methods: All blood loss from participants were measured gravimetrically and calculated after dry weights from the disposables and collecting bottles are excluded. Hb levels pre-CS followed by Hb within 6 hours and 24 hours post CS were taken. Data were tested by Multiple Linear Regressions where $P < 0.05$ is considered significant.

Results: Percentage blood loss, intraoperative fluid administration and patient previous scars were strong predictors for Delta Hb within 6 hours post CS and with exclusion of previous scar in Delta Hb after 24 hours post CS with $P < 0.05$.

Formula for Delta Hb within 6 hours post CS = $0.869 + (-0.055 \times \text{Percentage Blood Loss (\%)}) + (-0.001 \times \text{Fluid given intraoperatively (mls)}) + (0.205 \times \text{Previous scars (n)})$
Formula for Delta Hb after 24 hours post CS = $0.631 + (-0.086 \times \text{Percentage Blood Loss (\%)}) + (-0.001 \times \text{Fluid given intraoperatively (mls)})$

Confounders excluded are Body Mass Index (BMI), duration of surgery, total blood volume, estimated liquor, balance fluid given intraoperatively and after 24 hours, and parity.

Conclusions: It is possible to estimate blood loss within 6 hours and after 24 hours after CS. The benefits will include maintaining normal Hb level and assessing need for transfusion for post CS.