

TRALI or ARDS or TDGE versus blood transfusion

TRALI ou SDRA ou TDGE versus hemotransfusão

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More recently in 2012 an International Task Force on ARDS-acute respiratory distress syndrome has changed the terminology of acute respiratory disorders gathering several terms in a single nomenclature, then TDGE-transient dysfunction of gas exchange was abandoned^[1]. Thus, ARDS was categorized according to PaO₂/FiO₂ levels into three degrees of hypoxemia: mild (200 to 300 mmHg), moderate (100 to 200 mmHg) and severe (<100 mmHg).

Rodrigues et al.^[2] focused on postoperative acute respiratory disorder concerning adult patients submitted to cardiac surgery. In this retrospective cohort of 717 patients, they accounted for over 60% of patients with moderate or important degree of hypoxemia as above-mentioned. This considerable number of patients with respiratory impairment had an impact in outcomes as ICU (Intensive Care Unit) length of stay and rose susceptibility to pulmonary infection.

Three risk factors were identified on multivariate analysis: renal replacement therapy [$P=0.0005$, Odds ratio (OR) 2.34], cardiac arrhythmia ($P=0.045$, OR 1.79) and blood transfusion ($P=0.0001$, OR 1.72). Indeed, blood transfusion has been considered a key point of TDGE, but in fact it is unduly burdensome.

Certainly TRALI- transfusion-related acute lung injury is a well-known acronym used in ICU settings by health personnel as well as TDGE^[3]. There is also a widespread concern about reducing blood transfusion to prevent TRALI or ARDS or TDGE, hence decreasing morbimortality rates^[4]. The etiology may be different for acute respiratory distress, but pathophysiology is alike no matter which name is given.

For practical purposes, several studies compared restrictive transfusion strategy < 7 g per dL of hemoglobin (class IIa-level of evidence C) versus a liberal transfusion trigger of 10 g per dL of hemoglobin (class III-C). Some strategies have been used in cardiac surgery as intraoperative auto-transfusion (class IIb-C), OPCABG (Off-Pump Coronary Artery Bypass Graft) (class IIa-A), centrifugation of pump-salvaged blood (class IIb-A), red cell salvage (class I-A), minicircuits (class I-A), recombinant human erythropoietin (class IIa-A) as other drugs and manoeuvres to prevent blood loss^[5].

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Evidenced-based medicine pointed out the rationale to reduce the use of blood products^[5]. Nonetheless, it should have a proper balance between transfusion therapy and “permissive anemia”, it also requires particularly careful on an individual case basis.

In conclusion, ARDS is still a source of relevant morbimortality in cardiac surgery, several risk factors have been intelligibly associated to, having a special focus on blood transfusion further studies may help in achieving a gold standard guideline to this complex issue.

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