Multimodality blood conservation strategy in cardiac surgery with cardiopulmonary bypass: the CHU of Liège experience

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Introduction: The aim of this study is to analyse the transfusion rates of cardiac surgery patients in a single centre following an in-house strategy of blood conservation.

Methods: The data of all adult patients undergoing normothermic cardiac surgery with cardiopulmonary bypass (CPB) over a 1 year period were retrospectively collected (n=491). Management protocols were described and the transfusion rates of allogeneic blood components were recorded: red blood cells (RBC), fresh frozen plasma (FFP) and platelets (PT), as well as the number of units transfused. The timing of transfusion was categorized: during CPB (peroperative period), within the first 48 postoperative hours after wean out CPB (early postoperative period) and during the hospitalisation from surgery until discharge (hospitalization). The hematocrit values were recorded during CPB, 10 minutes after wean out CPB, after the first 48 postoperative hours and at discharge from hospital.

Results: Two hundred and forty-eight patients (50%) received an allogeneic component blood transfusion during hospitalisation. One hundred and twenty-nine patients (25%) received RBC during the operative period; the median number of units transfused was 2(1-2). The preoperative hematocrit value was 36(33-40)% in median and the lowest hematocrit value during CPB was 21(19-24)%.

Conclusion: The transfusion rates observed in this series are relatively high compared with the literature. Improvements will be made in our practice and protocols management in order to decrease the need of transfusion. This detailed audit of the transfusion practices in our cardiac surgery centre would be helpful to value the effectiveness of further improvements.