Efficiency and safety of preoperative autologous blood donation in cardiac surgery: a matched-pair analysis in 432 patients.

Abstract:
A shortage of blood products is predicted for the near future in many countries all over the world. Preoperative autologous blood donation (PABD) in cardiac surgery is considered an option to reduce the need of allogeneic blood products. We analysed a 1-year period of our institutional database according to the safety and efficiency of our autologous blood donation programme. All patients who donated autologous blood prior to cardiac surgery were matched to a non-donor according to age, body weight, body mass index, sex, haemoglobin concentration, EuroSCORE, antifibrinolytic therapy and risk for bleeding. We analysed the occurrence of adverse effects during donation in all donors as well as the main perioperative data, haemoglobin levels and the need for allogeneic blood transfusion in all patients. There were no major cardiac events such as myocardial infarction, worsened cardiac insufficiency or death in the donor group during the PABD process. A total of 216 patients could be matched. Exposure to allogeneic blood products was significantly reduced in the donor group (packed red cells 70 patients (pts) vs 118 pts (p<0.001), fresh frozen plasma 26 pts vs 54 pts (p=0.001), platelets 10 pts vs 22 pts (p=ns)). There were no reports of transfusion-related side effects. Further, there was no difference in haemoglobin concentrations at postoperative day 1 and at
discharge. In this large matched-pair analysis without the need for risk stratification, PABD reduces the need for allogeneic blood products in adult cardiac surgery. In a carefully selected cohort, PABD is a safe and efficient alternative to allogeneic transfusion.