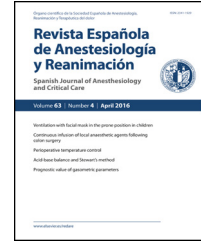




Revista Española de Anestesiología y Reanimación

www.elsevier.es/redar



ORIGINAL ARTICLE

Patient blood management in cardiac surgery: Results[☆]

A. Pajares^{a,*}, L. Larrea^b, I. Zarragoikoetxea^a, A. Tur^a, R. Vicente^a, P. Argente^a

^a Área Anestesia Cardíaca, Servicio de Anestesiología y Reanimación, Hospital Universitari i Politènic La Fe, Valencia, Spain

^b Servicio de Procesamiento, Centro de Transfusión de la Comunidad Valenciana, Valencia, Spain

Received 7 August 2017; accepted 27 November 2017

KEYWORDS

Blood saving;
Cardiac surgery;
Blood component
transfusion;
Complications;
Hospital stay

Abstract

Objective: The main objective of the study was to evaluate the effect of implementing a blood-saving programme in patients undergoing elective cardiac surgery with an analysis of the transfusion rate and complications.

Materials and methods: A single-centre, observational, retrospective, comparative study which included 604 consecutive patients older than 15 years old undergoing elective cardiac surgery. Two groups of patients were created according to whether or not they were included in a blood-saving protocol, and analysed between December 2012 and July 2013 (293 patients, prep group) and April 2015 to May 2016 (311 patients, postp group).

Results: The overall blood product transfusion rate was reduced in the postp group (89.5 vs. 67.6%; $p < 0.001$), as well as individually: red blood cell concentrates (83.6%; $p < 0.001$), fresh frozen plasma (36.2 vs. 21.2%; $p < 0.001$), platelets (40.8 vs. 32.7; $p < 0.001$). By contrast, fibrinogen use increased from 16.4 to 49% ($p < 0.001$). Postoperative complications were similar in both groups, except for pulmonary complications (57.8 vs. 43.1%; $p < 0.001$). Length of hospital stay was similar in both groups except in the Critical Care Unit with longer stay for the prep group (5.81 ± 8.00 vs. 4.18 ± 4.38 ; $p = 0.002$). Mortality did not change.

Conclusions: The implementation of a blood-saving programme in the cardiac surgery area has favourable consequences, such as a saving in blood product and a reduction of pulmonary complications, although without decreasing the mortality rate.

© 2017 Sociedad Española de Anestesiología, Reanimación y Terapéutica del Dolor. Published by Elsevier España, S.L.U. All rights reserved.

[☆] Please cite this article as: Pajares A, Larrea L, Zarragoikoetxea I, Tur A, Vicente R, Argente P. Programa de ahorro de sangre en cirugía cardíaca: resultados. Rev Esp Anesthesiol Reanim. 2018. <https://doi.org/10.1016/j.redar.2017.11.008>

* Corresponding author.

E-mail address: pajares.maz@gmail.com (A. Pajares).

PALABRAS CLAVE

Ahorro de sangre;
 Cirugía cardíaca;
 Transfusión de
 componentes
 sanguíneos;
 Complicaciones;
 Estancia hospitalaria

Programa de ahorro de sangre en cirugía cardíaca: resultados**Resumen**

Objetivo: El objetivo principal del estudio fue valorar la repercusión de la implantación de un programa de ahorro de sangre en pacientes intervenidos mediante cirugía cardíaca programada con el análisis de la tasa transfusional y las complicaciones.

Materiales y métodos: Estudio unicéntrico, observacional, retrospectivo, comparativo que incluyó a 604 pacientes mayores de 15 años consecutivos intervenidos mediante cirugía cardíaca programada. Se analizaron 2 grupos de pacientes establecidos por la aplicación o no de un programa de ahorro de sangre entre diciembre de 2012 y julio de 2013 (293 pacientes, grupo prep) y entre abril de 2015 y mayo de 2016 (311 pacientes, grupo postp).

Resultados: Disminuyó la tasa transfusional global de componentes sanguíneos en el grupo postp (89,5 vs. 67,6%; $p < 0,001$) y de manera individual: concentrados de hematíes (83,6 vs. 56,4%; $p < 0,001$), plasma fresco congelado (36,2 vs. 21,2%; $p < 0,001$), plaquetas (40,8 vs. 32,7%; $p < 0,001$); por el contrario, aumentó el uso de fibrinógeno (16,4 vs. 49%; $p < 0,001$). Las complicaciones postoperatorias fueron similares en ambos grupos, salvo las pulmonares, que disminuyeron (57,8 vs. 43,1%; $p < 0,001$). La estancia hospitalaria fue similar en ambos grupos, excepto en la Unidad de Reanimación, con más días en el grupo prep ($5,81 \pm 8,00$ vs. $4,18 \pm 4,38$; $p = 0,002$). La mortalidad no presentó cambios.

Conclusiones: La implantación de los programas de ahorro de sangre en el Área de Cirugía Cardíaca tiene consecuencias favorables como el ahorro de componentes sanguíneos y la disminución de complicaciones pulmonares, aunque sin consecuencias en la disminución de la mortalidad.

© 2017 Sociedad Española de Anestesiología, Reanimación y Terapéutica del Dolor. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

In the last decade, following the guidelines of European and American scientific societies, all advanced health systems have implemented blood-saving programmes in surgeries with a high demand for blood products. These societies have published clinical guidelines for blood management based on a multidisciplinary and multimodal approach and an array of recommendations that range anticoagulants to intraoperative blood salvage, including transfusion protocols and postoperative management.¹⁻⁴ Reducing consumption of blood products not only saves costs, but also reduces transfusion-related complications and improves therapeutic outcomes.⁵ Cardiac surgery is among the procedures with the highest risk of bleeding, due as much to the surgical intervention itself as the drugs administered during the perioperative period.^{6,7}

We conducted a preliminary analysis of blood transfusions performed in the Cardiac Surgery department of our hospital⁸ with a view to introducing a comprehensive patient blood management (PBM) programme in our routine clinical practice. PBM is a multimodal concept supported by the World Health Organization built around 3 pillars of care aimed at reducing or eliminating the need for allogeneic blood products and thus improving patient outcomes.^{7,9} The implementation of a PBM programme brings important benefits: it not only improves patient well-being and reduces the number of unnecessary transfusions, but also has an enormous potential to reduce health expenditure.¹⁰ For this

reason, the introduction of PBMs should be spearheaded by national health authorities.¹¹ PBMs are based on 3 pillars: (1) detecting, evaluating, and treating preoperative anaemia, (2) reducing perioperative blood loss, and (3) utilising and optimising the physiological reserves of patients with anaemia (including the haemoglobin thresholds for restrictive transfusion).¹²⁻¹⁴

The objective of this study was to evaluate the implementation of this blood saving programme by analysing transfusion rates, consumption of blood products, associated complications, days of stay and mortality.

Material and method

This was an observational, retrospective, comparative study of 604 consecutive patients aged over 15 years, undergoing scheduled cardiac surgery in a tertiary hospital that is also a referral centre for heart surgery. Patients were assigned to 2 groups, depending on whether the blood saving protocol was applied or not. Accordingly, patients operated prior to introduction of the protocol were assigned to the "Prep group" and those operated after implementation of the protocol formed the "Postp group". The study was conducted during 2 periods of time: from December 2012 to July 2013 (293 patients, Prep group) and from April 2015 to May 2016 (311 patients, Postp group). We considered that in the period from July 2013 to March 2015, the hospital had taken all the measures needed to implement the protocol and effect the changes in the routine management of cardiac surgery

Download English Version:

<https://daneshyari.com/en/article/8622323>

Download Persian Version:

<https://daneshyari.com/article/8622323>

[Daneshyari.com](https://daneshyari.com)