Monitoring strategy as a tool for blood transfusion safety

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Transfusion reactions are complications of blood component transfusions and may be a risk to patients. The risks range from mild urticariform reactions to fatal reactions if not recognized and dealt with promptly. Moreover, with the improvement of serological techniques over the last decades, surveillance of acute reactions has become more and more important as this decreases the risk of transmitting infecto-contagious diseases.[1,2] Recently, several initiatives to improve transfusion safety have been described and current legislation addresses this question; the emphasis is always on trying to guarantee the safety of patients who might need transfusion support.[3,4] In addition, problems related to the under-notification of complications are being discussed worldwide.[5,6]

Hospital Pompéia is a charity foundation with approximately 350 beds and is a referral center for a region of around one million inhabitants – especially in respect to trauma, neurosurgery and oncology. The Hospital takes care of National Health Service patients through its own transfusion agency, with blood components being supplied by the regional blood center in Caxias do Sul. The supply for patients who have health care insurance, as well as private patients, comes from the Caxias do Sul Blood Bank that manages an independent transfusion agency inside the Hospital. Aiming at guaranteeing transfusion safety of patients in the Hospital, a transfusion monitoring program was introduced.

In the beginning, the strategy was implemented in respect to the Regional Caxias do Sul Blood Bank and then the same methodology was used in the Hospital's own Blood Bank, thereby standardizing transfusion care. Implementation took place in 2008. The monitoring program, which aims at identifying transfusion reactions, is carried out by the professionals administering transfusions. Monitoring consists of observing the first 15 minutes of all transfusions and evaluating the patients who received plasma or cryoprecipitate at the end of the transfusion. Patients receiving red blood cell concentrates are monitored during the first 15 minutes and then are re-evaluated one hour after the start of the transfusion and again at the end (time calculated according to the drip). All patients are asked about signs and symptoms which may be related to transfusion reactions and their vital signs are checked. Whenever a transfusion reaction is identified, the duty physician of the hospital examines the patient.

The transfusion teams of both agencies were trained and the data from the first 6 months of 2010 were evaluated. During that period, 4121 transfusions were performed at the hospital ranging from 518 in May to 887 in January with an average of 683 transfusions per month. In these six months, 18 acute transfusion reactions were diagnosed; the most frequent were mild allergic reactions and febrile non-hemolytic reactions. The reaction rate was 4.3 reactions per 1000 transfusions. ANVISA, the Brazilian National Health Surveillance Agency considers an incidence of 3 reactions per 1,000 transfusions to be an under-notification of transfusion reactions. From these data, it is estimated that in the state of Rio Grande do Sul and in Brazil there are under-notifications of 73.4% and 78.2%, respectively. The authors believe that with an incidence of 4.3 reactions per 1000 transfusions the methodology described guarantees transfusion safety, making prompt medical care possible while providing adequate notification to the Health Surveillance Agency in respect to immediate transfusion reactions.[7]

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Conflict-of-interest disclosure:
The authors declare no competing financial interest

Submitted: 10/2/2010
Accepted: 3/23/2011

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DOI: 10.5581/1516-8484.20110061