

DONOR SCREENING AS AN ESSENTIAL FACTOR IN THE EFFICIENCY OF DOUBLE PLATELET COLLECTION BY APHERESIS

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Background/case studies: The need for platelets collected by apheresis in Brazil has been gradually increasing. Blood banks that seek quality and transfusion safety choose to use it whenever available. However, the challenge of attracting donors and the operational cost of this method are still determining factors for its exclusivity in the transfusion of platelet concentrates, especially in a country with a middle per capita income, according to the World Bank. Double platelet collection protocols allow this exclusivity in most of these transfusions. This case study establishes the criteria related to donor screening so that double platelet collection minimizes this challenge. **Study design/methods:** In March 2024, 36 voluntary and frequent donors with platelet counts $> 200,000$ cells/ μ L and body surface > 1.7 m² were previously selected and invited to participate in the equipment validation process. All participants signed the Consent Form acknowledging the risks and authorizing the disclosure of data. Double platelet collections were scheduled in the validation process of the AmiCORE 2.1 equipment with the addition of Intersol (PAS). The programming established a yield between 6×10^{11} and 6.5×10^{11} platelets/unit, with at least 50 mL of storage solution (Intersol 65% plus Plasma 35%) for every 0.5×10^{10} platelets/unit. The maximum collection time was 1120 minutes. The following concentrate parameters were evaluated: platelet count, leukocyte count, pH and microbiological contamination. The equipment was evaluated for efficiency, A/T index and collection time. The presence of adverse events during the procedure was assessed. **Results/findings:** : The average efficiency (yield obtained/number of platelets processed) was 68% with a 95% CI(66.3-70.4). The average A/T index, which relates the programmed yield to the yield obtained, was 1.1 with a 95%CI(1-1.04). The mean pH of the platelet concentrates on the 5th day of storage was 6.9 with a 95% CI(6.9-7.1). The collection time did not exceed 110 minutes in 100% of donations. Of the 36 collections completed, 100% reached the minimum platelet yield of 6×10^{11} /unit and 100% of the platelet concentrates had a leukocyte count of less than 5×10^6 / μ L. The average body surface area of the donors was 2.03 m² (1.7-2.34). There was one case of intense perioral paresthesia which was treated by adjusting the reduction in citrate perfusion, and no drug intervention was required. **Conclusions:** Based on prior selection of donor with count $> 200,000$ platelets/ μ L and body surface area > 1.7 m², we obtained 100% double platelet concentrates enabling the transfusion of platelet concentrates by apheresis for patients in public and private services, with quality and minimized cost. Importance of research Promoting equality and equity in assistance with apheresis platelet transfusion for both patients in the public Unified Health System and for patients

in private services is feasible, even in a country with a middle per capita income, according to the World Bank. Hemotherapy services that are guided by transfusion quality must guarantee access to this methodology, without distinction.

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THE DONOR EXPERIENCE IN THE VALIDATION OF NEW APHERESIS EQUIPMENT IN BRAZIL

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Background/case studies: Transfusion of platelet concentrates by apheresis is the first-line treatment for thrombocytopenic cancer patients undergoing chemotherapy. Maintaining a safe stock of this blood component is a challenge for blood banks, as collection time, possible adverse reactions during the procedure and the confidence transmitted by the equipment operator are factors that can discourage donation. Offering the donor an excellent collection experience implies a donation with adequate time and without incidents. A positive experience not only builds donor loyalty but also contributes to better use of the collection. This case study evaluated the donor experience as part of the validation process for a new apheresis machine in Brazil. **Study design/methods:** In March 2024, 40 donors with platelet counts greater than 200,000 cells/ μ L were selected for validation of the AmiCORE 2.1 equipment with the addition of Intersol (PAS). After collection, a questionnaire assessed the donor's experience, the intensity of perioral tingling and time in the equipment. The ideal responses were above "7" for the positive experience, below "4" for tingling and "adequate" or "short" for time on the equipment. The effectiveness of the collected platelet concentrate was evaluated by the A/T index, with the ideal value being at least 1. **Results/findings:** As for how pleasant it was to donate to this equipment, only 1 donor (2.5%) classified it as not very pleasant, the other 39 (98.5%) found it very pleasant, even when compared to other equipment. The average time spent in the equipment was 85 minutes and the 95% CI (80.5-89.6). The only donor who rejected the equipment was outside this confidence interval. The intensity of perioral tingling was characterized as low (levels 1, 2 and 3) in 39 donors (98.5%), the only case in which the intensity was severe and caused discomfort to the donor was the one in which the collection time was prolonged according to your perception. Regarding the success of collecting platelet concentrates by apheresis, the average A/T index was 1.1 and the CI was 95% (1-1.04). The equipment was approved by 39 (98.5%) donors and they stated that they would donate again. **Conclusions:** Donors' perception was greater than 95%, except for the time spent in the equipment. One donor had severe paresthesia, which was treated by reducing the citrate perfusion rate. Although the length of stay was only 80% of what was expected, 95% of donors