ADVERSE DONOR REACTIONS IN PLATELET PHERESIS DONORS

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INTRODUCTION

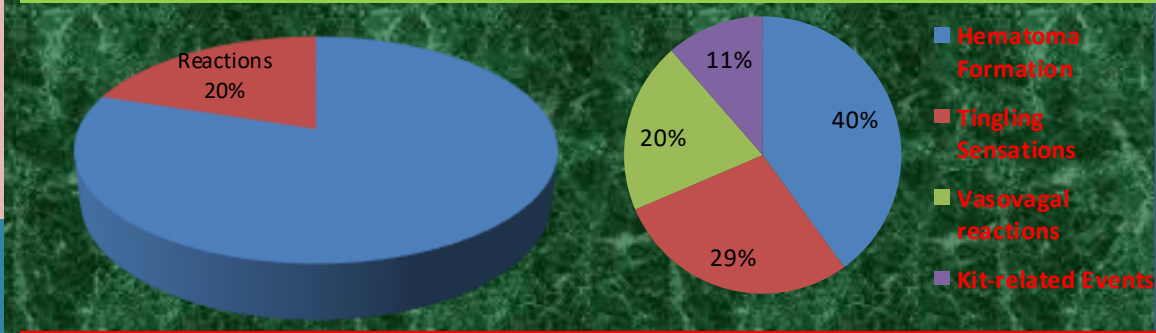
Recent advancements in automated cell separators have significantly enhanced the productivity and quality of apheresis platelet collections. However, safety concerns regarding adverse events during the procedure and subsequent physiological changes in the hematological and biochemical profiles of donors undergoing plateletpheresis remain underexplored. Despite significant technical advancements in automated cell separators, more emphasis has been placed on the quality of platelet concentrates rather than on donor safety. We designed this prospective study to investigate donor safety by analyzing adverse events in healthy plateletpheresis donors, focusing on the occurrence of such events during nearly 175 apheresis procedures conducted over 2 year period in a hospital-based program.

METHODOLOGY AND PROCEDURE

The study involved 175 healthy plateletpheresis donors, consisting of125 first-time and 50 repeat donors, all of whom provided informed consent. Procedures were conducted using the Spectra Optia Terumo BCT apheresis machine , during which adverse events were documented and categorized. Donors' hematological profiles were assessed using an automated cell counter and serological testing using ELISA.Data were collected apheresis adverse event registers. Adverse events were analyzed in several categories, including complications like hatoma formation, machine errors, citrate toxicity, hypotensive or vasovagal episodes.

RESULTS

A total of 20% (n = 35) of the plateletpheresis donors experienced adverse events, with 8% related to hematoma formation, 5.7% related to tingling sensations, followed by vasovagal reactions (4%), and kit-related events (2.3%). Multivariate analysis indicated that factors such as first time donors and donors within age group 30-45 years were substantially related to adverse donor reactions.



DISCUSSION AND CONCLUSION

. Identifying donors at risk for complications can help modify the apheresis procedure to minimize adverse events. Increasing public awareness about the ongoing need for blood and blood products is essential. Common adverse events in plateletpheresis donors include hematoma formation, tingling sensations, vasovagal reactionsand kit related events which can be mitigated through pre-donation education and adjustments to machine configurations. However, further prospective studies are needed to develop guidelines for donor safety in apheresis and to evaluate donor suitability, particularly with the rising trend of double product apheresis collections.