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ISBTI (GUJARAT CHAPTER)

SAFETY AND EFFICACY OF ABO NON-IDENTICAL PLATELET TRANSFUSIONS AT A TERTIARY CARE CENTER IN SOUTHERN INDIA.

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INTRODUCTION: Platelet transfusions are vital for thrombocytopenic patients, especially those in intensive treatments. Due to shortages, ABO non-identical (ABOni) transfusions are often used, despite risks like hemolysis and reduced platelet recovery.

AIM: This study investigates the safety and efficacy of ABOni platelet transfusions at a tertiary care centre in southern India, aiming to enhance clinical outcomes and transfusion practices.

METHODS: This retrospective study analyzed data from January to September 2024, evaluating patients receiving ABOni random donor platelet (RDP) transfusions. Patient demographics, body surface area (BSA), and clinical data were collected, with platelet counts measured before and 24 hours post-transfusion to calculate corrected count increment (CCI) and absolute platelet increment (API) as efficacy indicators.

Total patients *n*= 393

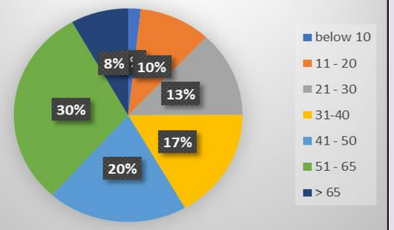
160 | 233

Departments	Patients
Medical Oncology	111
General Medicine	77
Hematology	74
Cardio Thoracic	66
Emergency	17
Nephrology	11
Cardiology	6
Medical Gastroenterology	6
Rheumatology	5
Surgical Oncology	5
Neurology	4
Neurosurgery	4
Surgical Gastroenterology	3
Orthopaedics	2
Radiation Oncology	1
Urology	1

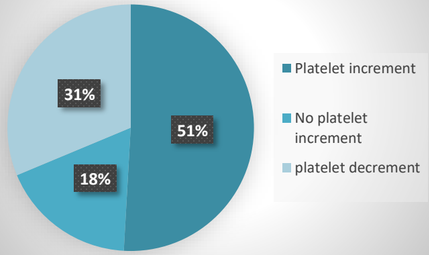
Type of incompatibility

Type	Patient	Donor	n=393
Major	A	AB	7
	B	AB	20
	O	AB	20
		A	28
		B	71
Minor	A	O	56
	B	O	90
	AB	A	32
		B	41
		O	8
Bidirectional	A	B	5
	B	A	15

Age distrubution

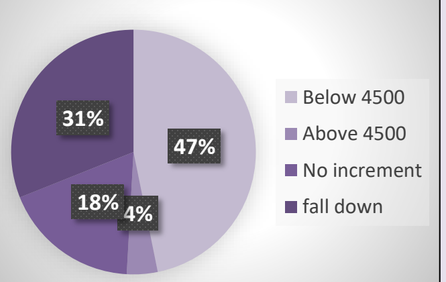


Absolute Platelet increment



RESULT: Among 393 patients (233 males, 160 females, ages 5–82) who received ABOni platelet transfusions, most were from the medical oncology group (111), followed by hematology and cardiothoracic departments. Incompatibilities included 146 major, 227 minor, and 20 bidirectional cases. CCI results showed >4500 in 4% of patients, <4500 in 47%, no increment in 18%, and a decrease in 31%. API indicated an increase in 51%, no change in 18%, and a decrease in 31%. No adverse reactions were observed.

Corrected Count Increment



DISCUSSION: While ABOni transfusions are practical in platelet shortages, careful patient selection and monitoring are essential to optimize efficacy and reduce risks. Developing protocols to identify patients most likely to benefit from ABOni transfusions, along with alternative strategies for others, could improve outcomes.

CONCLUSION: ABO non-identical platelet transfusions are typically safe, though their effectiveness can vary based on patient-specific factors. Additional research is essential to clarify these variables and improve transfusion practices

REFERENCE: Transfusion outcomes and clinical safety of ABO-nonidentical platelets transfusion: A systematic review and meta-analysis. Cheng, Zhanrui et al. Transfusion and Apheresis Science, Volume 63, Issue 4, 103943