

Effects Of Autologous Blood Transfusion in Cardiac Surgery Reduces Donor Blood Requirement-A Prospective Cohort Study

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BACKGROUND

- Cardiac surgery is one of the most critical allogenic transfusion-dependent surgical specialities.
- The blood transfusion rate in cardiac surgery remains high despite using different blood conservation techniques.
- Recent studies that suggest restrictive transfusion practices show no evidence of increased harm as compared with liberal strategies.

OBJECTIVE

- Effects Of Autologous Blood Transfusion in Cardiac Surgery.

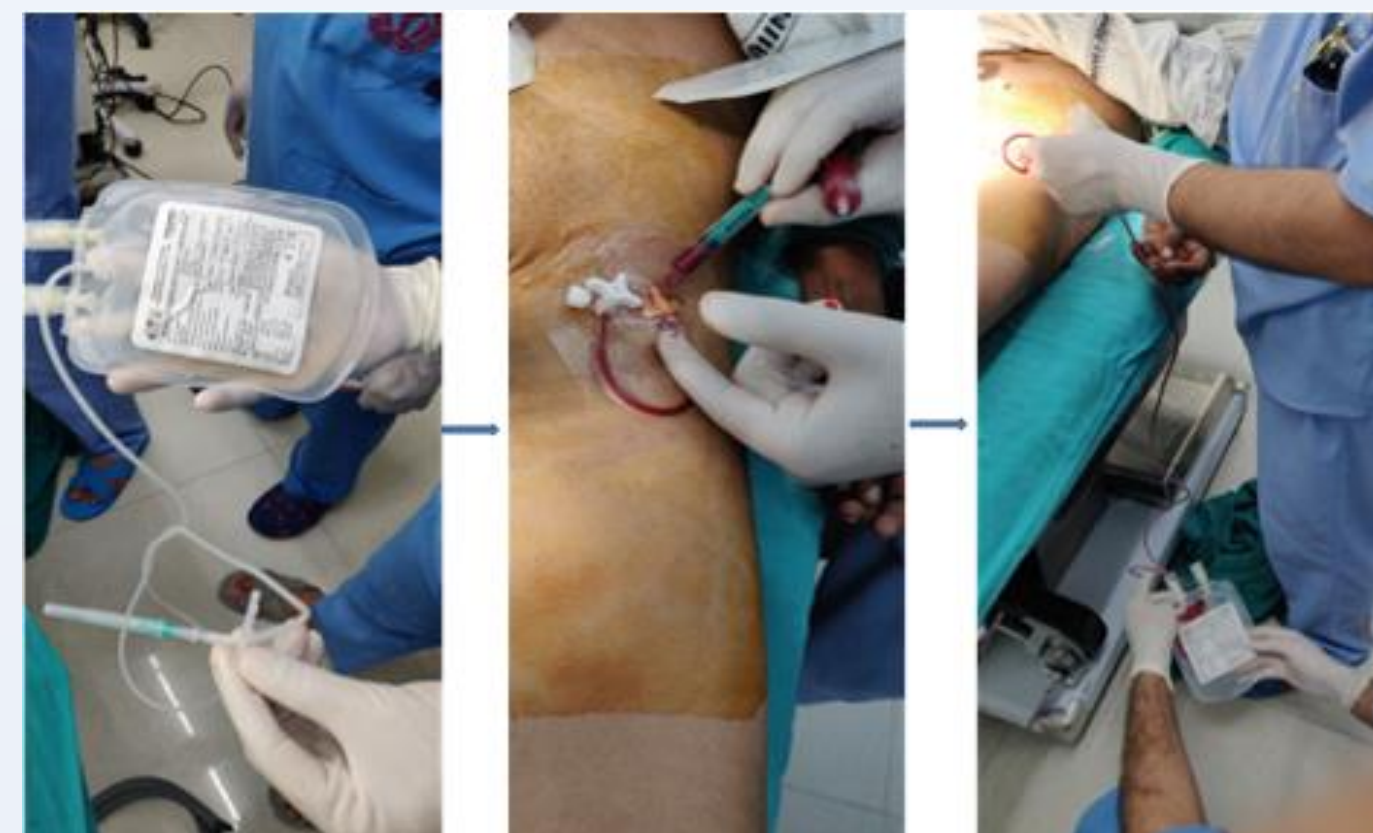
METHODS

- This Cohort study was conducted in the Department of Transfusion Medicine, AIIMS, Jodhpur, from August 2017 to March 2020.
- We hypothesized that a strict blood conservation protocol that directs all cardiac surgery patients whose hb more than 10g/dl are advised to undergo ANH.
- A total of 83 patients were included in the study. All the patients undergoing cardiothoracic surgery by a single group of surgeons were included. Patients with preoperative hemoglobin of <10 g/dl were excluded.

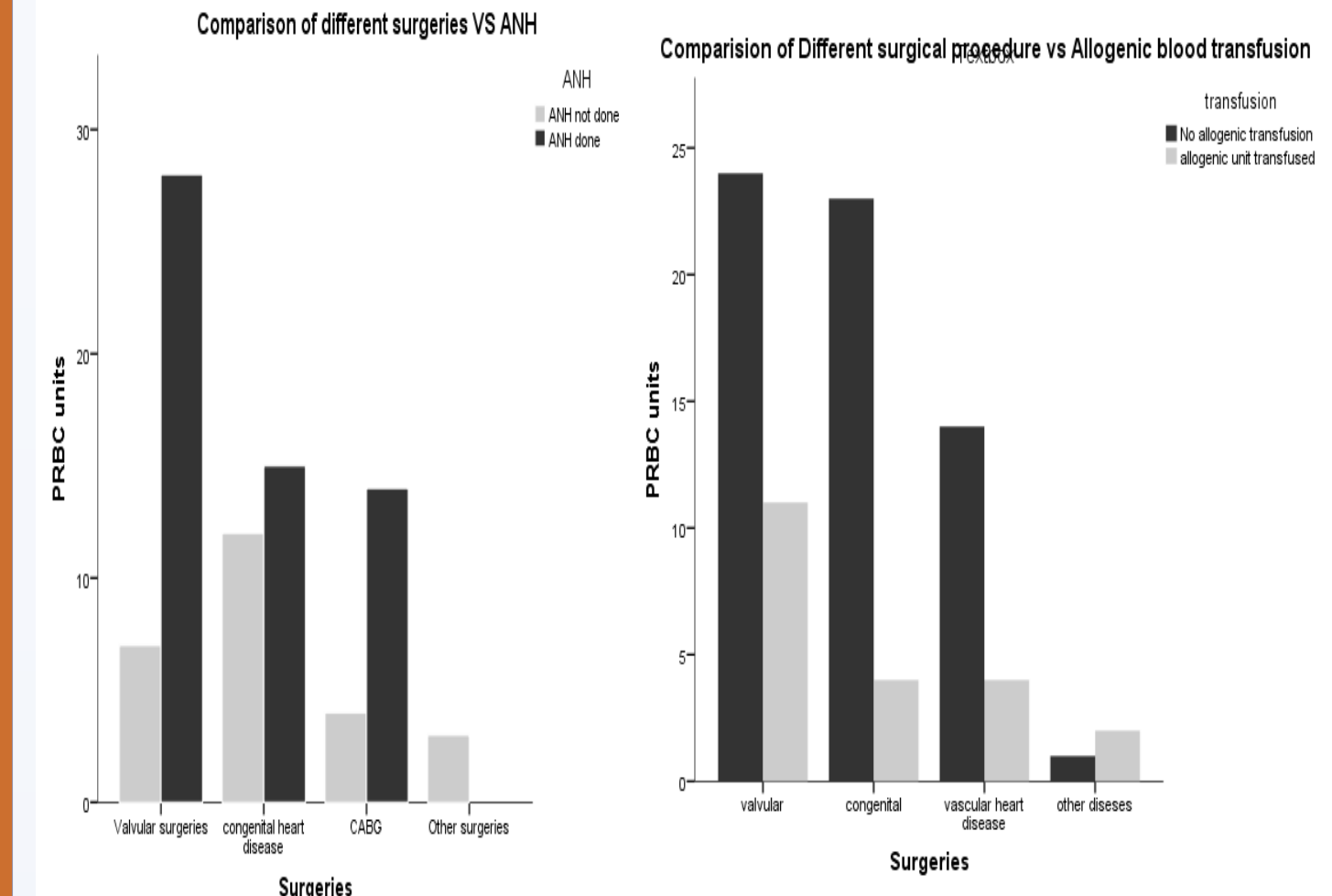
RESULTS

- Group A included 57(68.67%) patients in whom one/ two units of autologous blood were withdrawn after induction of general anesthesia. Group B included 26(31.32%) patients in whom no autologous blood was withdrawn.
- In group A, 17.5% of patients required intra/postoperative PRBC transfusion, while in group B, 61.5% of patients required intra/postoperative PRBC transfusion(p-value=0.01), showing significantly lower PRBC requirements in group A.

s.no	Variable	Group a N=57	Group b N=26	P value
1	Allogenic transfusion	10	16	0.01**
2	No transfusion	47	10	



- In addition, the number of units of PRBC blood transfused in group A was significantly lower than that transfused in group B(0.44±1.1 vs. 0.58±.86 units respectively; p-value:0.048).
- 35 patients who came to valvular replacement/ repair surgeries. 28 patient underwent ANH. Among those who donated autologous blood, 22 patients (78%) received only autologous blood after the surgical procedure. Thus, only 22% of patients who predonated blood were exposed to allogenic blood.
- When the two groups were compared, a significantly greater proportion of patients who donated autologous blood avoided exposure to any allogenic blood products (p < 0.02)



CONCLUSION

Autologous blood transfusion effectively reduces allogenic blood requirements in patients undergoing cardiac surgery, and it reduces the risk of transmission of the TTI infectious. Compared with other blood conservation strategies, autologous blood donation remains a promising and cost-effective alternative to reduce allogenic blood transfusion in elective cardiac surgery.

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