eP060- A clinical audit – Interventions to improve emergency release blood practices in a quaternary care hospital in South India

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Introduction

- Emergency release of blood is often required for trauma or non-trauma cases when un-crossmatched O negative or group compatible red cell units are issued before completion of pre transfusion testing. The efficient utilization of blood components during an emergency is crucial for improved patient outcome.

Aim

- To analyze the parameters involved in emergency utilization of blood and to implement interventions to improve the clinical practice.
- To compare pre and post implementation results to evaluate the performance of our blood centre and inter-departmental co-ordination.

Methodology

- This study was conducted by the Department of Transfusion Medicine, Rela Institute and Medical Centre as a two phase clinical audit after obtaining ethical clearance from the audit committee as shown in table 1.

Results

- Details regarding the indication, location, patient outcome and massive transfusion were not completely documented in the phase I period.
- The post-implementation analysis showed significant improvement in all parameters especially with regard to TAT, transfusion trigger and patient outcome

Table 1: Parameters assessed during audit

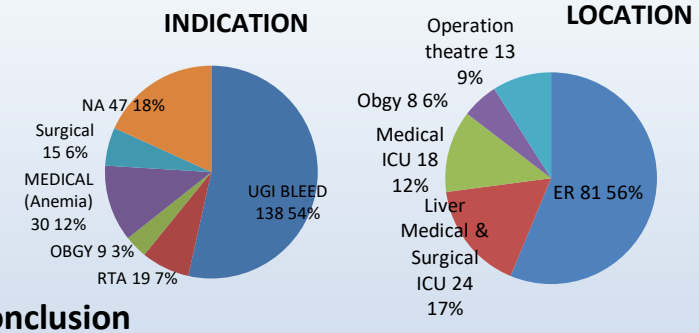
Parameters	Pre	Post
Study Period	2019-Dec 2023	Jan to Aug 2024
No of patients	221	66
Type of request (New admission /Re-admission)	Not available	Recorded
MTP Protocol	Partially available	Recorded
Total units transfused in 24 hours	Not available	Recorded
Pre and post transfusion laboratory values such as hemoglobin (g/dL), hematocrit (%), platelet count (cu mm3),international normalized ratio (INR), fibrinogen (mg/dL)	Not available	Recorded
Outcome of the patient	Partially available	Recorded
Turn around time (TAT)	Not available	Recorded
Transfusion Trigger	Not available	Recorded
Adverse events following transfusion	Not available	Recorded

- The average TAT for emergency requests was 3 minutes, with the longest time being 20 minutes.
- With respect to patient outcome, majority were discharged in stable condition.

Table 2: Transfusion triggers requiring emergency release

Bleeding (66%)	31 –Upper GI Bleed 2-Post partum bleed 5-Road traffic accident
Breathlessness (10%)	3- severe anaemia 4-upper GI bleed
Tachycardia+LowHb (22.7%)	15- Severe anaemia

Figure1: Indications & Location of emergency release



Conclusion

- As there are no standard guidelines directing the use of emergency blood due to varied hospital transfusion practice and availability of lesser data, effective documentation of parameters such as transfusion trigger ensures that O-negative blood is used when absolutely indicated.
- Blood grouping and typing should be well-documented for patients with repeated hospitalizations to reduce the overuse of O-negative
- Effective communication, co –ordination, training of blood centre staff and clinical end blood users and monitoring is necessary to ensure safe and effective use of blood.

References

- Riveira MC, Fredrickson TA et al . Improving emergency department blood product use through nursing education. Transfusion. 2020 May 6.
- Chowdhury R, Williams BA, Williams S, Casey J. Quality improvement review of O positive blood in emergency transfusion. Transfusion. 2023 Oct;63(10):1841-1848