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Optimizing Clinical Transfusion and Patient Blood Management: Singapore's Perspective

Submitted by: Singapore



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Singapore's Blood Service system and Blood Utilization (Background)

- National blood service (Blood Services Group (BSG) of HSA) operates as a government statutory board reporting to the Ministry of Health (MOH)
 - Supplies almost all of nation's blood product utilization (excluding plasma derivatives)
- Red cell utilization
 - About 85% in public sector hospitals and 15% in private hospitals
 - 23.5 per 1000 population (2013): consistent 3-5% annual increase in past years
- Rate of blood product outdate
 - Red cells: < 0.1%, platelets: < 1%

Challenges

- Aging population
 - ≥ 65 years old: 7.2% (2000), 10.5% (2013), 11.2% (2014)
 - Increasing blood requirements and decreasing potential donor population
- Important to promote comprehensive patient blood management programmes
 - Actively promoted since 2013

Principles adopted and Concepts promoted

- Goals: Enhance effective and evidence-based utilization of blood products so as to
 - optimise patient outcomes and reduce transfusion-related risks by administering transfusion only if potentially beneficial
 - ensure availability of blood products to those who need these
- Emphasises the importance of hospitals and clinical users taking an active role
- Multidisciplinary approach and applicable to patients from all disciplines
- Not a new concept to clinicians but encourage a shift from a “reactive” to “proactive” approach
- Recognition that hospitals have different capabilities and resources: promote step wise and realistic adoption

Existing facilitators and elements of PBM

- Hospital Transfusion Committees (HTCs) established in all hospitals since 1990
 - act as the focal point for communication with BSG
 - “ensuring PBM system” added to TOR in 2012
- National Haemovigilance Programme (since 2004, voluntary reporting) and compulsory reporting of serious adverse events to MOH
- Written consent for blood transfusion practised by all public-funded hospitals and major private hospitals
 - Patient Information Leaflet about blood transfusion published by BSG in 2012 (includes latest data on transfusion-related risks) to aide informed consent
- National clinical guidelines (on transfusion) by HSA and MOH in 2011
- National Massive Transfusion Protocol since 2011
- BSG manages the national blood inventory and maintains close oversight on blood utilization

Improving awareness

- Getting “buy-in” from stakeholders by BSG
 - Obtained approval from MOH leadership to introduce PBM as a national initiative
 - Obtained endorsement of Hospitals’ Senior Management (Medical Board Chairman) in Feb 2013
 - April to Aug 2013: Clinical Services of BSG engaged HTC chairpersons and introduced concept of comprehensive PBM
 - Encouraged to identify at least 1 patient group who will benefit from comprehensive PBM
- Jan 2014: Visiting expert in PBM delivered lectures and held discussions with hospitals on their PBM efforts
 - Opportunity to promote awareness of proactive and pre-emptive approaches in PBM
 - Written recommendations provided

Providing guidance

- Feedback from HTC's on the need for guidance
- Recommendations written by BSG in Nov 2013
 - Implementation of PBM for patients undergoing elective surgery
 - Elaboration on preoperative management (less awareness and knowledge)
 - Hospitals encouraged to explore intra- and post-operative measures based on capabilities and resources
 - Red Cell transfusion Triggers for non-haemorrhagic patients with chronic anaemia
- Analysis of national blood utilization data in progress: potential for identifying areas for improvement in PBM

Monitoring of effectiveness

- In discussion with hospitals on KPIs
 - Emphasis on indicators of PBM efforts (rather than actual measurement of blood utilization rate) at the current “early” phase
 - Hospitals encouraged to also review and enhance other PBM activities related to these KPIs

Summary

- PBM can be a nation-wide initiative which is most effective with active participation by hospitals and support from government and blood service
 - Importance of PBM better appreciated by hospitals from perspective of patient outcome and safety
- Guidelines and standards useful but need to cater for differences in capabilities and resources
- Data collection and analysis allows better identification of areas for improvement
- Audits and KPIs: may be more practical for these to focus on efforts of PBM at the initial phases of implementation