

BLOOD MATTERS: better, safer transfusion program

Clinical Audit of Platelet Use

Background

Platelet transfusion is indicated for the prevention and treatment of haemorrhage in patients with thrombocytopenia or platelet function defects. Previous studies have shown a wide variation in clinical practice in the transfusion of platelets.

The platelet count is the primary trigger for the use of platelets, with the risk of bleeding and the extent of bleeding also used as indicators for platelet transfusion.

Note should be taken of the National Health and Medical Research Council and Australian and New Zealand Society of Blood Transfusion guidelines for transfusion of platelets (NH&MRC/ANZSBT, 2001).

The Blood Matters: better safer transfusion program wishes to work with hospitals to ensure that

- a) blood components and products are used appropriately and effectively, and
- b) alternative blood management strategies are used to limit the need for transfusion where clinically appropriate.

The Blood Matters Advisory Committee has identified the area of platelet use as an appropriate area for targeted clinical audit in order to determine current practice across the State.

Audit Aims

To improve the quality of care provided to patients by ensuring the appropriate use of platelet product in patients within hospitals. Medical record documentation relating to platelet transfusion should also be relevant and accurate.

Objectives

- i. To determine if platelet use in a sample of hospitals is aligned to clinical practice standards developed from NH&MRC/ANZSBT guidelines.
- ii. To determine contemporary patterns of use of platelets in hospitals.

Standards

Clinical practice standards have been developed from the national guidelines for the clinical use of platelets (2001).

Data Set for platelet Transfusion

Transfusion Committees (or their equivalent) are asked to take this opportunity to ensure that the required data for each platelet transfusion is documented in the clinical notes. According to NH&MRC/ANZSBT (2001) these are:

- indication for platelet transfusion
- amount of platelets transfused

BLOOD MATTERS: better, safer transfusion program

- assessment of the effectiveness of the platelet transfusion

Methodology

The proposed methodology is for an audit of 30 platelet transfusion episodes.

Definition: *An episode will be defined as each time the participating blood bank issue one or more therapeutic doses of platelets to a patient. The same patient can only be entered into the database twice.*

The Transfusion Committee (or equivalent) should designate a member of staff to record the information requested on the proforma provided. The designated data collector in participating hospitals will review the patient case notes and using the audit proforma (Form 1: Clinical Audit of Platelet Use), collect the relevant data. It is suggested that a clinical sub-group identified by the Hospital Transfusion Committee (or equivalent) review their local data on platelet transfusion.

All data collection forms comply with the Privacy Acts.

Time Frame:

30 consecutive platelet transfusion episodes (or in low frequency users, all platelet transfusion episodes) between **1 January 2009 and 30 July 2009**. For hospitals that transfuse platelets very regularly, every third platelet transfusion may be audited, up to a maximum of 30 episodes.

A designated member of Hospital staff will undertake data collection and data entry. Further details for data collection and data entry are provided on the attached Audit Information Sheet.

The Blood Matters secretariat will co-ordinate the audit, taking responsibility for the distribution of audit collection tools, data entry and analysis, and will collaborate with the Blood Matters Advisory Committee in formulating the audit report. The Blood Matters Advisory Committee will disseminate results to the participating hospitals.

Audit reports are to be **returned (*online*) by 7 August 2009** to:

BLOOD MATTERS: better, safer transfusion program
Statewide Quality Branch, Department of Human Services
GPO Box 4057
MELBOURNE 3001

If further information is required please contact

- Karen Botting Blood Matters Project Manager on Tel: 9096 9037 or email: karen.botting@dhs.vic.gov.au
- or Lisa Stevenson, Transfusion Nurse Blood Matters on Tel: 9096 0476 or email: lisa.stevenson@dhs.vic.gov.au

BLOOD MATTERS: better, safer transfusion program

AUDIT INFORMATION SHEET

This sheet contains definitions to assist with data collection and data entry.

Data Collection: recorded indications

The recorded indications are those documented in the medical record as the reason for the platelet transfusion.

1. **Fever (as a risk factor in bone marrow failure patients):** temperature equivalent to or greater than 38° C.
2. **Massive haemorrhage/transfusion:** one blood volume lost in 24 hour period or greater than 20 units transfused in a 24 hour period
3. **Surgery/invasive procedure:** Central or arterial line insertion or removal, broncho-alveolar lavage, lumbar puncture, liver biopsy, upper GI endoscopy, lapartomy/abdominal surgery (procedure is to be described in the 'Notes' section if not on this list).
4. **Abnormal microvascular bleeding & platelets:** complicated massive transfusion/DIC.
5. **Documented platelet function disorder:** transfusion is appropriate in hereditary and acquired platelet function defects (eg drug induced), after correcting anaemia and considering DDAVP and cryoprecipitate, except for Glanzman's Thrombasthenia where Factor VIIa is more appropriate.
6. **Other recorded indications:** may include High risk surgery eg neuro or ophthalmic.

Data Collection: other definitions

1. **Same day active bleeding:** (active bleeding up to 24 hours before transfusion) includes petechiae or mucosal bleeding
2. **Same day surgery/invasive procedure:** (surgery or procedure performed 24 hours before, during, or after transfusion) includes central or arterial line insertion or removal, broncho-alveolar lavage, lumbar puncture, liver biopsy, upper GI endoscopy, lapartomy/abdominal surgery (procedure is to be described in the 'Notes' section if not on this list).
3. **Bags of platelets:** one bag is equivalent to one bag of apheresis platelets or one bag of pooled platelets. If HLA platelets are used, this subcategory should be noted in the 'Notes' section.
4. **Anti-platelet Drugs:** Refer to Appendix 1

Data Entry

Please submit the data *online* to the Blood Matters Program by **7 August 2009**.

- Up to 30 audit forms are to be completed per hospital, numbered 1 to 30 in the 'Audit ID' field. These are to be 30 consecutive platelet transfusion episodes or for hospitals that transfuse platelets very regularly, every third platelet transfusion may be audited.
- The audit form is attached to the letter of invitation to your hospital and the form includes your 'Hospital Code'. Further copies of the audit form are available from the Blood Matters website at www.health.vic.gov.au/best/audit.htm
- Data is to be entered by each health service via the web at www.health.vic.gov.au/best/audit.htm. Instructions for entry are provided at this site from June 2009.

BLOOD MATTERS: better, safer transfusion program

- Data is to be submitted online: you must enter you 'Hospital code' and 'Audit ID' number each time.
- For **queries** about data entry, please **contact Blood Matters on 03 9096 0476**.

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Appendix 1: List of anticoagulant and antiplatelet drugs

Reproduced with permission from "A prospective observational study of blood product transfusion practices in Australian intensive care units", ANZICS, August 2008

Trade names are underlined with generic names in brackets or in bold.

Warfarin

- Coumadin
- Marevan

Clopidogrel

- Plavix
- Iscover

Aspirin

- Astrix 100
- Astrix tablets
- Cardiprin 100
- Cartia
- DBL aspirin
- Solprin

Glycoprotein IIb/IIIa inhibitors

- Aggrastat (Tirofiban)
- Integrilin (Eptifibatide)
- Reopro (Abciximab)

Ticlopidine

- Ticlopidine hexal
- Tilodene

Dipyridamole

- Persantin
- Persantin SR

NSAID

- Aclin (Sulindac), liquid
- Advil Capsules (Ibuprofen)
- Advil Tablets (Ibuprofen)
- Aleve (Naproxen sodium)
- Anaprox (Naproxen sodium)
- Arthrexin (Indomethacin)
- Arthrotec 50 (Diclofenac sodium)
- Misoprostol
- Brufen (Ibuprofen)
- Bugesic (Ibuprofen)
- Bugesic Oral Suspension (Ibuprofen)
- Butalgin (Ibuprofen)
- Celebrex (Celecoxib)
- Chemists' Own Ibuprofen Pain & Fever Suspension (Ibuprofen)
- Chemists' Own Ibuprofen Tablets (Ibuprofen)
- Chemists' Own Period Pain Tablets (Naproxen sodium)
- Chemmart Diclofenac (Diclofenac sodium)
- Chemmart Meloxicam (Meloxicam)
- Chemmart Piroxicam Capsules (Piroxicam)
- Chemmart Piroxicam Dispersible Tablets (Piroxicam)
- Crysanal (Naproxen sodium)

- Diclohexal (Diclofenac sodium)
- Dimetapp Children's Ibuprofen Pain & Fever Relief Suspension (Ibuprofen)
- Dimetapp Infant's Ibuprofen Colour Free Pain & Fever Relief Suspension (Ibuprofen)
- Dinac (Diclofenac sodium)
- Dynastat (Parecoxib sodium)
- Eazydayz Tablets (Naproxen sodium)
- Feldene (Piroxicam)
- Femme-free (Naproxen)
- Fenac, Fenac 25 (Diclofenac sodium)
- GenRx Diclofenac (Diclofenac sodium)
- GenRx Meloxicam (Meloxicam)
- GenRx Piroxicam Capsules (Piroxicam)
- GenRx Piroxicam Dispersible Tablets (Piroxicam)
- Gold Cross Ibuprofen Tablets (Ibuprofen)
- Herron Blue Ibuprofen (Ibuprofen)
- Hexal Diclac Anti-inflammatory Tablets (Diclofenac sodium)
- Imflac (Diclofenac sodium)
- Indocid (Indomethacin)
- Inza (Naproxen)
- Meloxibell (Meloxicam)
- Meloxicam Ranbaxy (Meloxicam)
- Meloxicam Sandoz (Meloxicam)
- Meloxicam Winthrop (Meloxicam)
- Meloxicam-GA (Meloxicam)
- Mobic (Meloxicam)
- Mobilis (Piroxicam)
- Movalis (Meloxicam)
- Moxicam (Meloxicam)
- Naprogesic (Naproxen sodium)
- Naprosyn (Naproxen)
- Naprosyn SR (Naproxen)
- Nurofen (Ibuprofen)
- Nurofen Liquid Capsules (Ibuprofen)
- Nurofen Meltlets Lemon (Ibuprofen)

- Nurofen Migraine Pain (Ibuprofen lysine)
- Nurofen Plus (Codeine phosphate; Ibuprofen)
- Nurofen Tension Headache (Ibuprofen)
- Nurofen for Children (Ibuprofen)
- Nurofen for Children Infant Drops (Ibuprofen)
- Nurofen for Children Meltlets (Ibuprofen)
- Nurolasts (Naproxen sodium)
- Orudis (Ketoprofen)
- Oruvail SR (Ketoprofen)
- Panafen IB (Ibuprofen)
- Panafen Plus (Codeine phosphate; Ibuprofen)
- Pharmacor Meloxicam (Meloxicam)
- Ponstan (Mefenamic acid)
- ProVen (Ibuprofen)
- Proxen SR (Naproxen)
- Rafen (Ibuprofen)
- Surgam (Tiaprofenic acid)
- Terry White Chemists Diclofenac (Diclofenac sodium)
- Terry White Chemists Meloxicam (Meloxicam)
- Terry White Chemists Piroxicam Capsules (Piroxicam)
- Terry White Chemists Piroxicam Dispersible Tablets (Piroxicam)
- Toradol (Ketorolac trometamol)
- Tri-Profen (Ibuprofen)
- Voltaren (Diclofenac sodium)
- Voltaren Rapid 12.5 (Diclofenac potassium)
- Voltaren Rapid 25 (Diclofenac potassium)
- Voltaren Rapid 50 (Diclofenac potassium)
- Voltfast (Diclofenac potassium)
- **Others**
- Organon (Danaparoid)
- Refludan (ILepirudin)
- Dindevan (Phenindione)
- Angiomax (Bivalirudin)