OAA Survey 1031: Evaluation of Major Obstetric Haemorrhage Protocols in the United Kingdom

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Introduction: Recent initiatives in major obstetric haemorrhage (MOH), such as the Obstetric Bleeding Strategy Cymru, demonstrate the benefits of standardising maternal care[1]. In University Hospital Coventry and Warwickshire we found variation in transfusion practice during management of MOH and felt this may reflect similar trends nationally.

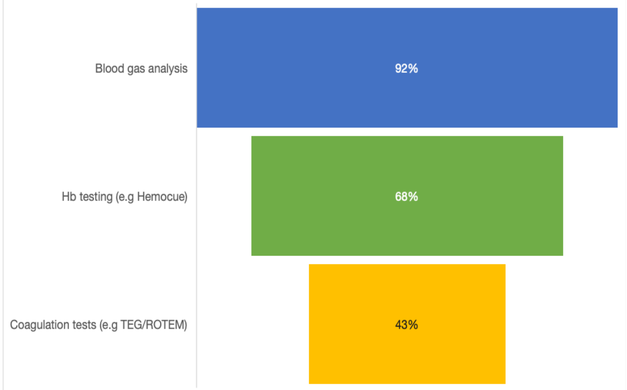
Methods: 132 obstetric leads received a 12 question survey regarding their trusts MOH protocols via the OAA survey portal between October 2021 and January 2022. Questions reflected key components of managing obstetric haemorrhage and included:

- MOH triggers
- Methods of blood loss calculation
- Resource availability (including cell salvage and point of care testing)
- Initial blood product and fluid management
- Physiological resuscitation targets
- Use of adjuncts e.g calcium replacement, tranexamic acid and fibrinogen factor concentrate

Results: Thirty seven of 132 responses were received (28%). The most common MOH trigger was at 1500ml (77%). Combined weighing and visual estimates of blood loss were used by 28 of 37 (76%) sites to calculate blood loss with 7 of 37 (19%) sites always weighing losses. Whilst initial crystalloid resuscitation was advocated in 28 of 37 (76%) of sites, only 14 (44%) specified volumes of crystalloid to be administered. In 41% of sites (15/37), cell salvage was always available, whereas in the remaining 22 sites it was either not available or subject to staffing constraints (See Figure 1).

The most common initial blood product delivered upon activation of MOH was red cells (4 units, 20/37 sites). The initial MOH pack does not include FFP in 20/37 (54%) sites. See figure 2 for initial pack contents. Only 10 of 37 (27%) protocols differentiated MOH from non-obstetric haemorrhage packs. Point of care coagulation tests (e.g. TEG®/ROTEM®) were available for labour ward in 16 of 37 sites (43%) (Figure 3). Less than 50% of protocols listed physiological targets for resuscitation (Figure 4). Tranexamic acid use was advocated in 97% of protocols. Replacement of calcium or fibrinogen featured in 46% of protocols.

Figure 3. POINT OF CARE TESTING AVAILABILITY (% OF TOTAL SITES, N=37)



Discussion: This survey highlights variation in management of major obstetric haemorrhage. Differences in blood product delivery on MOH activation may lead to unnecessary blood product usage, particularly when similar packs are used for obstetric and non-obstetric haemorrhage.

Wider adoption of intraoperative cell salvage and point of care coagulation tests, particularly in high risk/high volume sites should be explored. Barriers to accessibility need investigating. Despite an acknowledgement of the need for crystalloid resuscitation in the majority of protocols, consensus on appropriate volumes is not evident in the units we surveyed. Further research must inform guidance on optimal crystalloid resuscitation.

Physiological targets for common resuscitation parameters were often absent from protocols, which may further explain variation in management. Where present however, targets were largely in agreement. Universally accepted transfusion triggers and resuscitation targets may help to reduce variation in practice and unnecessary blood product usage. Finally, recognition of obstetric haemorrhage as a pathologically different process to non-obstetric haemorrhage will allow for a tailored approach to blood product administration.

Figure 1. CELL SALVAGE AVAILABILITY (% OF SITES, N=37)

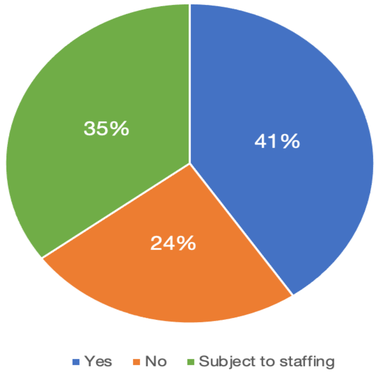


Figure 2. VARIATION IN INITIAL PACK CONTENTS

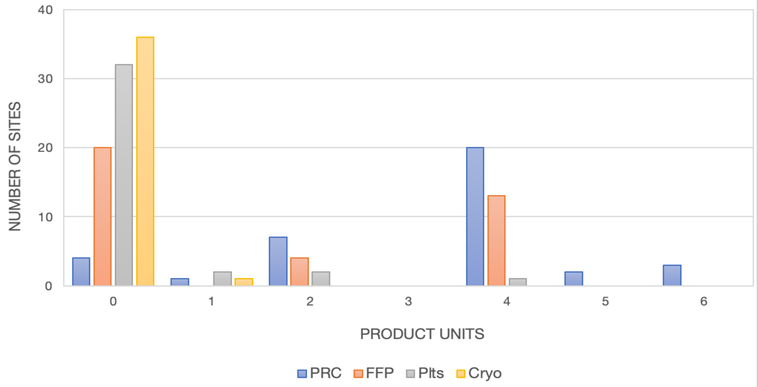
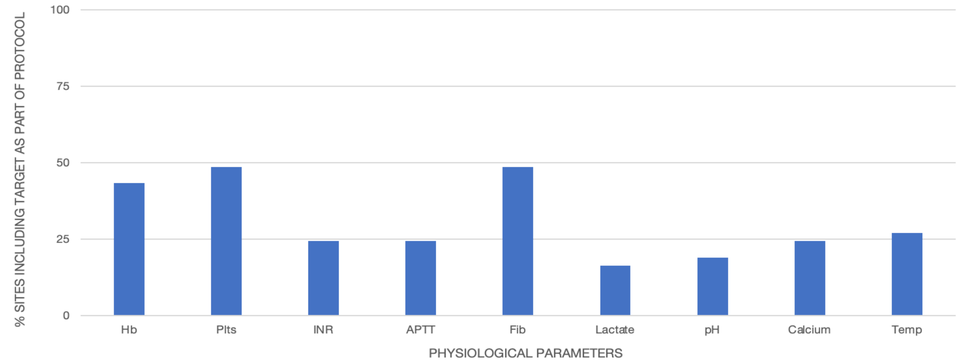


Figure 4. PERCENTAGE OF PROTOCOLS SPECIFYING PHYSIOLOGICAL TARGETS FOR RESUSCITATION (N=37)



1. Bell SF, Kitchen T, John M, et al. Designing and implementing an all Wales postpartum haemorrhage quality improvement project: OBS Cymru (the Obstetric Bleeding Strategy for Wales) BMJ Open, Quality 2020;9:e000854. doi: 10.1136/bmjoq-2019-000854