

Provision of Timely Alternative Multidisciplinary Protocols for Patients Refusing Blood or Blood Products:

An Audit

Abstract

Blood components and products are life-saving therapeutics but with inherent, life-threatening risks. There are patients who do not accept blood products for different reasons, including fear of blood borne viruses, transfusion reactions and religious beliefs. It is important to determine the standard of care and outcomes for such patients, within any clinical setting. The aim of this audit was to evaluate adherence to the agreed standard of care for patients who do not accept blood transfusion.

Methods

All patients who refused transfusions between 2019 and 2021 were included. Scanned forms and Electronic Patient Records were used to gather data. Expected care standards were: (1) a multidisciplinary team (MDM) led alternative care plan, agreed at least 3 weeks prior to the intervention/ procedure, to prepare for blood loss, and (2) that the MDM should involve: either a surgeon or physician, anaesthetist (if the treatment is surgical or antenatal), haematologist or transfusion practitioner and the patient.

Results

There were 195 patients referred to MDMs, of which 105 were surgical (54%), 52 were interventional (27%) and 38 were antenatal (19%). Of these, 188 (96%) were sent before a procedure (or birth) with the remaining 7 (4%) referred for ongoing treatment of medical patients, i.e. with severe anaemia. In 72 patients (38%) the MDM did take place ≥ 3 weeks before the procedure (similar to the results from the first cycle of the audit, in 2017-18 = 40%). Almost 85% (165) of MDM included all relevant stakeholders.

Discussion

The delay in timely referral for MDM led alternative care plan was likely due to a lack of awareness of transfusion policies, and potentially could lead to cancellation of the procedure or unavailability of alternative protocols in an emergent scenario during surgery or intervention.

Conclusion

Improvement was required for safer procedures and outcomes, by investment in training, regular refreshers/ updates for staff and electronic protocols/ prompts.

Naomi Melamed MBBS
Foundation year 2 doctor, St George's University Hospital, London

melamednaomi8@gmail.com

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Introduction

Refusal of blood transfusions and blood products is not uncommon. In addition to fear of transfusion reactions, blood borne infections, the common reason is religious beliefs – such as with *Jehovah's Witnesses*. The practice is based on passages from both the Old and New Testament of the Bible which command its followers to abstain from ingesting blood (1,2). There are approximately 135,000 Jehovah's Witnesses living in Great Britain and around 8.5 million around the world (3). Managing such patients when they present with severe bleeding is complex and raises ethical, legal and medical challenges. It is important that physicians, especially those working in areas with high numbers of congregations, and their respective hospitals, understand and follow internationally developed guidelines on the management of patients who do not accept transfusions.

Refusal of treatment by an adult with capacity is deemed lawful in Great Britain and Ireland. Therefore, many people who do not accept transfusions will have written advance directives to document, which blood components and products they will or will not accept. The Joint UK Blood Transfusion and Tissue Transplantations Services Professional Advisory Committee has provided guidelines that instruct clinicians on the correct documentation and filing of these legal documents(4).

St. George's University Hospitals NHS Foundation Trust is a large urban hospital in London which covers a large catchment area including three Kingdom Halls and approximately 10,000 Jehovah's Witnesses. Hospital policy states that any patients who do not accept blood components and/or blood products and are pregnant/ awaiting surgery or require treatment that is typically associated with transfusion support must be referred to a multidisciplinary team meeting (MDM) to determine a care plan in the event of an indication for blood transfusion. This

MDM should take place at least 3 weeks before the procedure and must involve a physician or surgeon, an anaesthetist (if the procedure is surgical or antenatal), a haematologist or transfusion practitioner and the patient.

The aim of this audit was to establish whether these standards had been met by reviewing blood refuser MDMs from St. George's Hospital between 2019 and 2021 to assess whether the MDM took place at the appropriate time. The results were compared with those of previous cycles of the same audit to see if any strategies implemented in the interim influenced meeting these audit standards.

Methods

All patients (n=195) who had a blood refusal documented MDM between 2019 and 2021 (36 months) at St. George's were initially included in this audit, the second cycle of an audit originally conducted to investigate standards in 2017-18 (24 months). Scanned MDM outcome forms were used to gather data from patients who attended a meeting. Data extracted from MDM forms included the following:

1. Patient characteristics
2. Date of MDM
3. Proposed procedure and treatment type (whether surgical, interventional, antenatal or for ongoing treatment in the context of a severe anaemia)
4. The blood components and blood products which would be accepted or rejected
5. Blood results and any pre-procedure optimisation plan
6. Attendance list

The procedure (or birth) date, if the treatment was surgical, interventional (e.g., flexible sigmoidoscopy) or part of an antenatal plan was gathered from Electronic Patient Records (iCLIP- Cerner Millennium®, an electronic medical and nursing

documentation platform). Medical MDMs for ongoing treatment planning were excluded at this stage.

Standards audited were:

1. Any patient who would not accept a blood transfusion for any reason must be referred to a multidisciplinary team meeting (MDM) to determine a care plan in the event of blood loss.
2. This MDM should take place at least 3 weeks before the procedure or intervention and must involve: either a surgeon or physician, anaesthetist (if the treatment is surgical or antenatal), haematologist or transfusion practitioner and the patient.

The results were then analysed, and data were compared between this cycle and

2017-18 cycle to see if any changes were successful. The following changes had been implemented between the two cycles:

1. St. George's transfusion policy guidelines were made available on the St. George's Intranet
2. All documentation templates for MDMs were made available on St. George's Intranet
3. Contact details, including emergency contact details, for the transfusion team were made available on St. George's Intranet
4. Departmental meetings were arranged between the transfusion team and various clinicians, including anaesthetics, to increase awareness of MDM referral guidelines

Audit cycle between 2017-18 and 2019-21 can be seen in Figure 1.

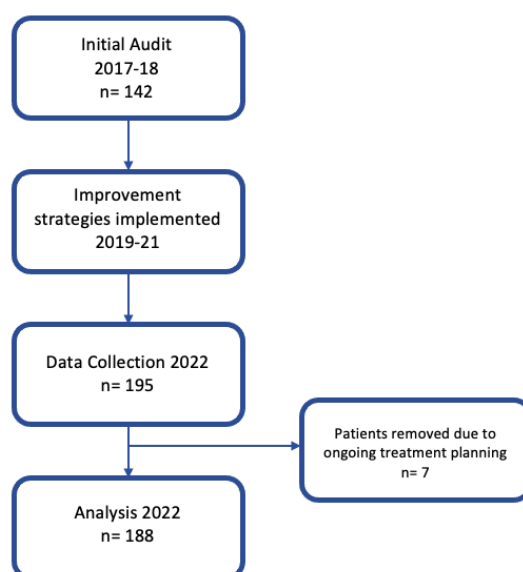


Figure 1. Audit Timeline

Results

A total of 195 MDTs were held in 2019-2021 (67, 53 and 75 in 2019, 20 and 21 respectively), an increase of 53 from 2017-18. Of note, in 2017-18 five procedures took place without a pre-procedure MDM; in 2019-21 no procedures took place without a

pre-procedure MDM. In 2019-21, 105 were surgical (54%), 52 were interventional (27%) and 38 (19%) were antenatal. 7 MDMs (4%) were for medical patients requiring an ongoing treatment plan and were excluded at this stage. Figure 2.

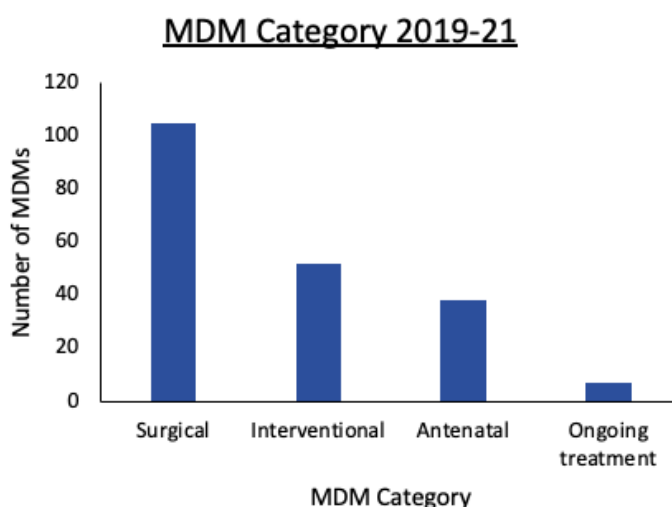


Figure 2. A graph showing the number and category of MDM referrals in 2019-21. 105 were surgical (54%), 52 were interventional (27%) and 38 (19%) were antenatal. 7 MDMs (4%) were for medical patients requiring an ongoing treatment plan

In 2019-21, nine procedures were cancelled, and no procedure was recorded on iCLIP in five cases (7%). There were 102 (54%) MDMs that occurred less than 21 days before a procedure or birth, of which 21 were emergencies. 72 (38%) MDMs occurred at 21 or more days. In 2017-18, 42 MDTs (40%) occurred less than 21 days before a

procedure or birth, however only 9 were emergency cases. Excluding emergencies, 49% (81 MDMs) occurred less than 21 days before a procedure or birth in 2019-21 and 33% (33 MDMs) occurred in 2017-18, demonstrating an improvement between audit cycles.

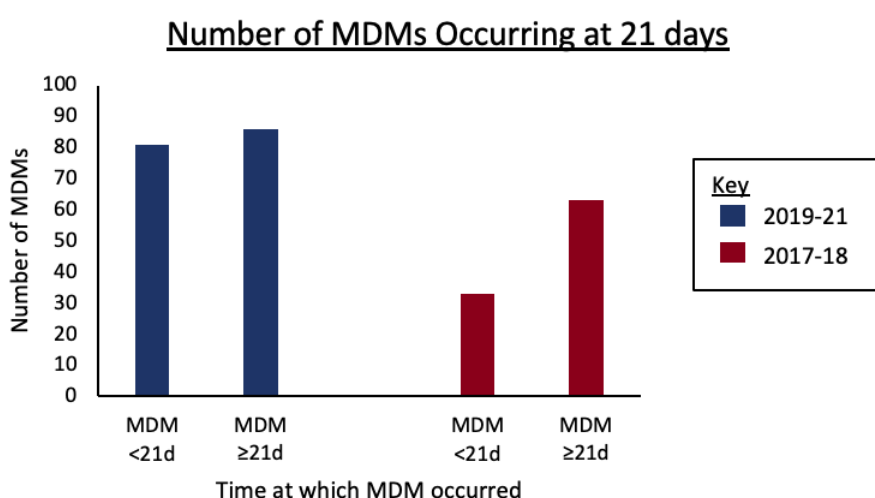


Figure 3. A graph comparing the number of MDMs occurring before 21 days in 2019-21 and 2017-18. Excluding emergencies, 49% (81 MDMs) occurred before 21 days in 2019-21 and 33% (33 MDMs) occurred before 21 days in 2017-18.

The attendance at MDMs was recorded in all but one occasion. For 161 (86%) MDMs, all members were present. In 25 surgical and antenatal MDMs (16%), the anaesthetist was absent. A member of the transfusion team (haematologist/ transfusion practitioner) was absent for 1 MDM (0.5%). No clinicians were absent from any meetings. This is a slight improvement from the cycle in 2017-18, where all members were present at 78 meetings (78%), of which an anaesthetist was the most likely individual to be absent (22 MDTs, 21%). In 5% (5) MDTs, the attendance was not recorded.

Discussion

There are several reasons why some patients do not accept blood products; these include personal preference, fear of transfusion reactions or transmission of blood borne infections, and religious beliefs. Jehovah's Witnesses comprise the largest group of patients who do not accept transfusions. A small number of patients who do not accept blood products attend hospitals for procedures that carry a risk of haemorrhage (3). Nevertheless, hospitals should provide guidelines to prepare clinicians for patients attending hospital and requiring transfusion to reduce the risk of any medical, legal, or ethical issues arising.

At medical school, students are taught the fundamentals of good clinical practice and adhering to consent with regards to personal beliefs and medical practice (5). The Royal College of Surgeons and the Joint UK Blood Transfusion and Tissue Transplantations Services Professional Advisory Committee have also provided guidance (4,6). Despite this, the results of our audit have shown that there is still low adherence to the policies.

One reason behind the results of our study could indeed be that clinicians are simply not aware of the regulatory requirements, as has been demonstrated in healthcare systems across the world (7,8).

Between the first and second cycles of this audit, several interventions for improving awareness were implemented. For example, resources were made available on the central online database for the hospital. This was intended to make documentation and policies easier to access. There was a small increase in the number of MDMs that occurred less than 21 days before the procedure in 2019-21 compared to 2017-18. Other studies have shown alternative methods to increasing the documentation around patients who do not accept transfusions. A number of German hospitals have provided flash alerts when clinicians access medical records (9). These best practice advisory notices alert medical staff to the fact that patients do not accept blood and include a direct link to guidelines. This is a strategy that could easily be implemented on electronic records in the UK, such as iCLIP. However, this will provide more of a challenge in hospitals where paper format notes are used.

A lack of awareness of the importance of these guidelines may also be a barrier to MDM provision. Although the transfusion team attended departmental meetings, there is evidence in the literature that educational events might provide more benefit. For example, in Canada and US, Jehovah's Witnesses have provided teaching sessions to educate future and practising physicians (10).

Other possible explanations for the lower attendance at MDMs are those of clinical pressures. As with the 2017-18 audit cycle, anaesthetists were most likely to be absent from meetings. In busy hospitals there will likely be scenarios that take clinical priority. The novel practice of telemedicine has dramatically increased due to the COVID19 pandemic, becoming a "game-changer" in providing care (11). Online meetings through encrypted platforms are an option if clinical pressures mean that clinicians cannot leave

busy wards or are working remotely. These have shown to be successful in various departments across the UK, including primary care, medicine and surgery (11–13). However, these would prove difficult in scenarios such as these, where signatures for legal documents are required. A form of remote signature software could provide an option.

Conclusions

St George's treats many patients who do not accept blood transfusion. Despite hospital policy, more than half of MDMs (38%) occurred less than three weeks before a planned operation. This is only a slight improvement on the 2017-18 cycle, suggesting that the changes implemented between cycles were not enough to facilitate an improvement.

This clinical audit highlights the need for improvement in adherence to trust policy. Improvement regarding blood transfusion MDMs at St. George's hospital is required and the outcome and all details of the MDM should be clearly documented in the future.

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