MTP Response Team: A Novel Performance Improvement Process for Management of the Exsanguinating Non-Trauma Patient

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INTRODUCTION:
Trauma providers are trained to quickly and efficiently provide lifesaving measures for patients, including delivery of massive transfusion, but what happens when the hemorrhaging patient is not under the care of the trauma team? This question surfaced for our facility after a non-trauma patient, who required massive transfusion, died due to unexpected complications. After review of the event, we recognized the massive transfusion protocol (MTP) was not being delivered with the same precision and protocol adherence when performed outside the ED, OR, or Shock Trauma ICU.

TEAM IMPLEMENTATION:
Prior to identification of this issue, we had developed an advance practice clinician (APC) led MTP for trauma patients that included specific roles and responsibilities for all involved staff members. Due to the success of our APC led MTPs in trauma, the decision was made to create and implement a hospital-wide Massive Transfusion Response Team.

This approach optimizes MTP with early TEG guidance and individualization of blood product administration. Implementation of this model mitigates the potential chaos of managing the patient in extremis and has been a critical component in developing a best practice for MTP delivery throughout our institution, not just for trauma patients.

CHALLENGES:
Initially, there was underlying skepticism by outside departments who felt they were proficient in managing the MTP independently. After implementation and having the opportunity to observe the team in action, this skepticism has been replaced with growing support for the critical resources and skill set this team provides.

Despite facility support, there have been multiple challenges related to implementation and the ongoing success of the team.

TEAM MEMBERS:
- Nursing Supervisor
- Shock Trauma ICU RN
- Shock Trauma ICU Tech
- Trauma APC
- Pharmacist
- Phlebotomist
- Respiratory Therapist

SUSTAINING THE CHANGE:
Each event is reviewed and debriefing conducted as needed, facilitating prompt identification and correction of issues.

TEAM ROLE:
The main purpose of this team is to manage delivery of blood products and ensure MTP protocol adherence, freeing the attending to manage the patient’s other resuscitation needs. The APC directs the team, orders blood products, labs and appropriate adjuncts to MTP, and deviates from protocol as indicated by TEG.

PROTOCOL ISSUES (PRE-IMPLEMENTATION)
- Unbalanced blood product administration
- Missing/incomplete documentation
- Transfusion of cold blood products
- Repeat labs not performed
- TEG not utilized to direct MTP
- Missed protocol medications (antibiotics, calcium)

ONGOING CHALLENGES
- Staff education regarding process
- Team activation process not followed
- Delay in blood availability (education issue)
- TEG remote viewing issues
- Missing/incomplete documentation

SUSTAINING THE CHANGE:
Each event is reviewed and debriefry conducted as needed, facilitating prompt identification and correction of issues.

CONCLUSIONS:
This approach optimizes MTP with early TEG guidance and individualization of blood product administration. Implementation of this model mitigates the potential chaos of managing the patient in extremis and has been a critical component in developing a best practice for MTP delivery throughout our institution, not just for trauma patients.

PROTOCOL ISSUES (POST-IMPLEMENTATION)
- Balanced blood product administration
- Improved documentation
- Consistent use of rapid infuser/warmer
- Repeat lab process streamlined
- TEG utilized to direct MTP
- Improved administration of protocol medications
- Further role clarification of response team members
- Clarification regarding IV access needs
- Expedited delivery = first 2 RBC units through tube system
- Lanyard use for patient identification throughout MTP

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