**Abstract #6420**

**A Multimodal Approach to Optimize Platelet Transfusion Therapy in Hematology-Oncology Patients As Part of a Comprehensive Patient Blood Management Initiative**

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**Abstract Text:**

**Background/Case Studies:**

Optimization of blood product transfusion is a key element of comprehensive patient blood management (PBM) programs. In the course of an evaluation of transfusion practice, as part of an institutional PBM program at an academic, tertiary care hospital, the following was noted: (1) platelet utilization, and associated acquisition cost, was rising dramatically; (2) the Hematology-Oncology service accounted for the majority of platelet transfusions, but there was a significant variation in practice among providers; and (3) auditing revealed significant deviations in practice from evidence-based institutional guidelines. A platelet benchmarking report, from an outside consultant, indicated a 20-40% opportunity to reduce platelet utilization. We set our institutional goal at 20% over 2 years. The key structural components of our program included a strong executive sponsor with a clear mandate to support this initiative, clinical stakeholders in high blood-use areas with monthly meetings to review all aspects of the program, and a broad clinical education/awareness campaign for physicians, residents, and nursing staff (grand rounds, committee presentations, in-service education, institutional awareness campaign).

**Study Design/Methods:**

Retrospective data from platelet transfusions (APR 2017 – APR 2019) were obtained by interrogating the electronic health record system. Concurrent transfusion medicine audits of all platelet transfusions were also undertaken to identify real-time trends. From this data, consultant analytics and benchmarks were applied to analyze platelet transfusion ordering practices and dosing patterns (hospital, specialty, and provider levels). The Hematology-Oncology division became the institution’s focus, with the following metrics established to assess performance: (1) percentage of pre-transfusion platelet counts ≤10,000 (goal of 70%), (2) percentage of pre-transfusion platelet counts ≥20,000 (goal of 10%), (3) average pre-transfusion platelet count (goal of 13,000), and (4) percentage single-unit platelet transfusions (goal of 97%). Monthly transfusion scorecards were provided to the Hematology-Oncology division to measure performance, which was assessed against specialty-specific institutional guidelines. Analytical data from April 2017 was used as the baseline for analysis.

**Results/Findings:**

The Hematology-Oncology division accounted for ~60% of all platelet transfusions over the study period. Platelet transfusion data for the 4 focused performance metrics, obtained from trend lines over the study time period, are provided in the following table. This improved practice has resulted in a decreased utilization of 11%, which amounts to 425 apheresis platelet products with an institutional cost savings (acquisition costs alone) of over $250,000.

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| --- | --- | --- | --- | --- |
| **Metric** | **Baseline (4-2017)** | **Midpoint (4-2018)** | **Current (4-2019)** | **Goal** |
| Platelets ≤ 10,000 | 40% | 52% | 60% | 70% |
| Platelets ≥ 20,000 | 28% | 20% | 13% | 10% |
| Average Platelet Count | 17,000 | 15,000 | 12,000 | 13,000 |
| Single-units Transfused | 95% | 97% | 98% | 97% |

**Conclusions:**

A multimodal approach to optimizing platelet transfusions in the Hematology-Oncology setting has been successful in decreasing utilization and has resulted in significant institutional cost savings. Decreasing unnecessary and inappropriate platelet transfusions is an important component of PBM initiatives and is beneficial to patients and institutions.