An Audit of Haemoglobin Assessment after Post-Operative Blood Transfusion in Patients with Hip Fracture.

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Background

Every day 4000 UK hospital beds are occupied by patients with hip fracture. Many of these, often frail patients, require post-operative red blood cell transfusion, a procedure that carries risk, expense, and places demand on a scarce resource. Current transfusion practices vary considerably. For all patients who are not actively bleeding, without chronic transfusion requirements, National Institute of Clinical Excellence (NICE) guidance advocates:

- **Restrictive thresholds**: Hb ≤70g/L or in Acute Coronary Syndrome ≤80g/L.
- **Post transfusion targets**: Hb 70-90g/L or in Acute Coronary Syndrome 80-100g/L.
- **Single Unit Transfusions**: Hb check & patient review after every unit (as soon as 15mins after).

**Aim**

To investigate if post-transfusion haemoglobin levels were being checked in post-operative patients with hip fracture according to NICE guidance.

**Methods**

We accessed the UK National Hip Fracture Database to obtain patient cohorts. We used the Hospital Transfusion Database (MOLIS) to obtain transfusion data including the time and date of transfusion, and the number of units given. We cross-checked this against time and date of operation and excluded all pre- & intra-operative transfusions. We excluded patients with active bleeding or chronic requirements for blood.

SUNQUEST ICE was searched to investigate pre- and post-transfusion haemoglobin levels. Serial Troponin-I rise and case notes were used to identify patients with ACS. The data was interrogated for the number of patients with ACS. The data was included for blood.

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**Results**

1. **Audit 1**
   - 337 patients with hip fracture
   - 25% Transfused
   - 198 Units of packed red cells

   **Results**
   - Hb Check following:
     - 1 Unit: 13%
     - ≥ 2 Units: 86%
     - No check: 1%

   **Implications**
   - 84% of patients over-transfused according to NICE recommended targets.

2. **Audit 2**
   - **3 Months**: Aug - Nov 2016
   - 70 patients with hip fracture
   - 21.4% Transfused
   - 20 Units of packed red cells

   **Results**
   - Hb Check following:
     - 1 Unit: 80%
     - ≥ 2 Units: 20%
     - No check: 0%

   **Implications**
   - 7.4 units saved per month.
   - £793 saved per month.
   - Proportion of patients over-transfused reduced to 26%.

**Conclusions**

- Hb check after every unit transfused is essential when considering the need for further transfusion.
- This audit identified a deficiency in this NICE recommended practice.
- Education and point-of-care haemoglobin testing can facilitate best practice.
- This reduces demand on blood, saves money, and improves patient safety.
- Further work is needed to achieve full compliance with NICE guidance.

References


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