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BLOOD MANAGEMENT IN MAJOR ELECTIVE PAEDIATRIC SURGERY AT A DISTRICT GENERAL HOSPITAL

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Despite guidelines providing strategies for perioperative management of paediatric patients undergoing surgery at risk of bleeding and transfusion (1), a wide range of practice in elective surgery has been demonstrated in several local audits. Studies have shown a significant rate of preoperative anaemia in patients undergoing major elective surgery with a subsequently increased mortality rate (2). There may be potential opportunities to reduce the incidence of post operative anaemia and their sequelae.

Method:

A retrospective study reviewing case notes over 10 months at a single centre. Measuring each case against the following six criteria with a gold standard outcome of 100% in each:

1. All patients undergoing major elective surgery with risk of bleeding have a preoperative full blood count (FBC) performed 6 weeks prior to surgery.

2. The preoperative Hb is optimised by treating iron deficiency.

3. A perioperative Hb transfusion threshold of 70 g/l should be used in stable patients without major co-morbidity or bleeding.

4. Tranexamic acid (TXA) is given to all children undergoing surgery where there is risk of significant bleeding, unless contraindicated.

5. Red cell salvage is considered in all children at risk of significant bleeding undergoing surgery and where transfusion may be required, providing there are appropriately trained staff.

6. All patients who undergo surgery with a risk of blood loss are given information regarding blood transfusion preoperatively.

Results:

16 osteotomy cases met the audit inclusion criteria:

1: 11/16 had a preoperative Hb, 3/11 were taken 6 weeks prior

2: 0 patients tested had a preoperative anaemia

3: 0/16 developed a Hb below 70

4: 8/16 were given TXA

5: Cell salvage used in 4/16; 3/16 were re-transfused (Table 1)

6: No documented evidence that written information of blood transfusions was given.

Discussion:

There were inconsistent performances of preoperative Hb. No patients tested had either a preoperative or postoperative anaemia and thus no iron supplementation or transfusion was required. Only 50% gave TXA with no rationale documented to justify omitting the drug. Only 25% used cell salvage and the rationale for its use was not documented.

Conclusion:

Management was inconsistent across all criteria.

Recommendation:

Creating a local perioperative protocol which includes a FBC at pre-operative clinic and offering a patient information leaflet could address these issues and improve patient (and parent) experiences and outcomes.

Reference

1. NBA (2016). Patient Blood Management Guidelines: Module 6 - Neonates and Paediatrics, National Blood Authority, Canberra, Australia. 2. Goobie S.M., Faraoni D., Zurakowski D., Dinardo J.A. Association of preoperative anemia with postoperative mortality in neonates. JAMA Pediatrics 2016; 170(9): 855-862