Venous Line Insertion and Factor Replacement Therapy in Patients with Haemophilia A: a local experience.

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Objectives:

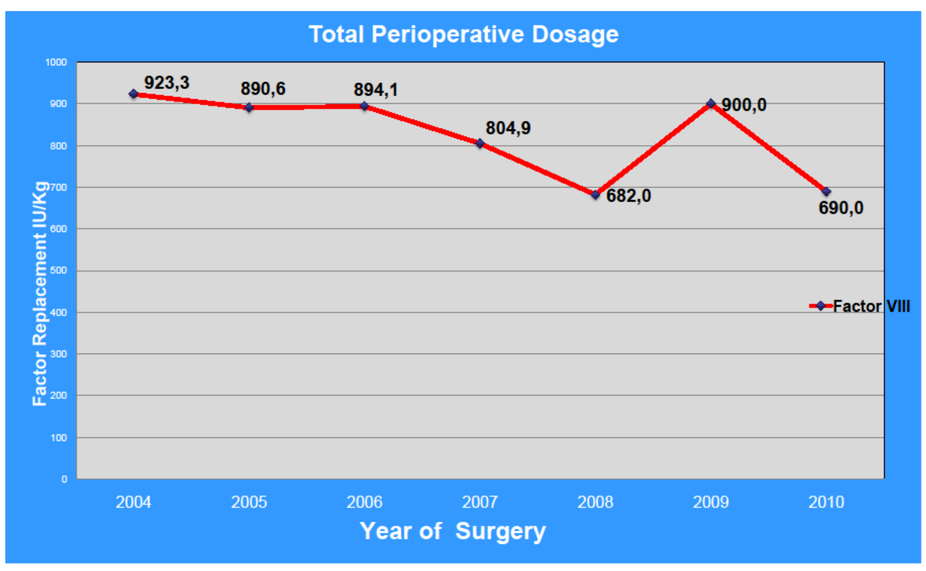
Central venous line (CVL) insertion is one of the most common procedures performed on paediatric haemophilia patients. There are no clear guidelines outlining the optimal dosing schedule of Factor VIII (FVIII) and duration of treatment required to achieve adequate haemostasis during and after surgery.
In this paper, we present our experience using the factor replacement therapy in 14 children with severe Haemophilia A at McMaster Children's Hospital over the course of 6 years, from 2004 to 2010, which could be used as a frame work for developing evidence based guidelines.

Methods:

This is a retrospective institutional chart review. The study was approved by the Hamilton Health Sciences Research Ethics Board. Patients between 0 and 18 years of age with severe Haemophilia A that underwent CVL insertion at McMaster Children's Hospital in Hamilton, Ontario, from 2004 to 2010 were identified and charts were reviewed. Data collected included patient demographics, length of stay in hospital, factor replacement therapy and timing in relation to the surgical procedure. Data was then extracted and plotted for analysis.

Results:

A total of 14 CVL insertion surgeries were reviewed. The average age at which CVL was inserted was 2.1 years, (0.9 to 6.1 years). The total average pre-operative dose of FVIII was 84.7 IU/Kg (68.7 IU/Kg -115.38 IU/Kg). The total average post-operative dose was 728.5 IU/Kg (431.8 IU/Kg– 962.9 IU/KG).The total perioperative dose was 813.2 IU/KG (500 IU/KG- 1032 IU/KG). We also compared the dose ordered versus the dose given and we found a small difference of about 6% in the total perioperative dose. (813.2 vs 865.8 IU/Kg) The vial content, accounts for the difference found. A trend toward decreasing the total perioperative dose over the years was also observed. No increased risk of bleeding or complications were observed.



Year surgery	Number of cases	Pre op dose Iu/Kg	Post op dose Iu/Kg	Total dose IU/Kg
2004	3	89.3	834.0	923.3
2005	1	78.1	812.5	890.6
2006	2	102.7	791.4	894.1
2007	2	87.1	717.8	804.9
2008	3	78.8	603.2	682.0
2009	1	75.0	825.0	900.0
2010	2	74.1	615.9	690.0
Total average		84.7	728.5	813.2
Range		68.18-115.38	431.82-962.96	500-1032

Conclusions:

The current study attempts to find an optimal haemostatic coverage during CVL surgeries and describes the experience at McMaster Children's Hospital. For insertion surgeries at McMaster, the average factor dose administered has slightly decreased over the years. These results may be of help in developing an optimal treatment schedule to achieve adequate haemostasis with the minimal optimal factor dosage.

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