

Surgery in Hemophilia.

A general view over a 4-year centre experience

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INTRODUCTION

- Patients with Hemophilia A or B of all severities are at increased bleeding risk following injury of any origin.
- A surgical intervention may be elective or of an emergency nature. It can be *major* or *minor*, according to the perceived or proven bleeding risk.
- When planning a potentially dangerous procedure, we should consider the risks and benefits and very carefully take into account the patient's age, life expectancy and immunologic status.
- The patient should be managed in a hemophilia centre, where a comprehensive team approach can be provided.
- The aim of our study is to get a general view on all surgeries performed at Hospital São José since 2006, in these patients.

METHODS

- Hospital patient's medical records were reviewed from January 2006 to October 2010.
- Data collected on: age, type of hemophilia, surgical procedure, n.º of hospitalization days, hemostatic outcome, adverse events and other complications.

CONCLUSIONS

- Hemophilia is not a contraindication for surgery, but adequate clotting factor correction is required.
- Factor dose and duration of replacement therapy depend on the type of intervention and severity of hemophilia.
- 21 patients (4 with inhibitor) underwent 24 surgeries (15 *major* and 9 *minor*) since 2006.
- Overall hemostatic outcome was very good.
- Patient 8 had an hemoperitoneum at day 4 and was submitted to laparoscopic revision; patients 10 and 20 developed a suture hematoma.
- The hemophiliac patient with inhibitor is at higher risk for management of bleeding control. Patient 13 needed sequential bypassing therapy.
- Despite the economic impact and need for Hospital's Clinical Board approval, a rising number of elective surgeries in the inhibitor subpopulation are being performed, resulting in a better quality of life.
- Weight control in the hemophiliac patient is crucial not only to prevent other medical associated diseases and joint damage but also for reducing the cost of treatment.
- No thromboembolic adverse events were reported.

RESULTS

- **21 patients** identified
- Median age at surgery: 43 years-old (9-68)
- Patients are characterized according to the type of Hemophilia in Table 1

Table 1

Type of Hemophilia	Number of patients (21)
A severe	14 (4 w/ inhibitor)
A moderated	2
A mild	1
Carrier	1
B severe	1
B moderated	1
B mild	1

Table 2

	24 surgeries	Elective	Emergency setting
Major	15	11	4
Minor	9	8	1

- **24 surgeries:** 15 *major* and 9 *minor* (Table 2)
- pd FVIII/FIX concentrates were used in 16 procedures and rFVIII/FIX concentrates were used in 4. All administrations were in bolus

Table 3 – Major surgical procedures in HA and HB patients:

Patient	Type of Hemophilia	Procedure	Total IU FVIII/FIX	Hospitalization days	Hemostatic outcome	Adverse events
1	A	Knee arthroplasty	123000	21	Excellent	–
2	A	Knee arthroplasty	118000	19	Excellent	–
3	A	Herniotomy	28000	10	Excellent	–
4	A	Hemorrhoidectomy	45000	7	Excellent	–
5	A	Knee arthroplasty	45000	8	Excellent	–
6	A	Knee arthroplasty	92000	18	Good	–
7	A	Radical prostatectomy	79500 57000*	14	Good	Inhibitor** Urosepsis‡
8	A	Apendicectomy	70500	14	Good	–
9	A	Open femur reduction	55000	15	Excellent	–
10	B	Hydrocel	155000	18	Good	–
11	B	Thigh skin graft	185000	14	Excellent	–

* aCCP; **inhibitor at day 10; ‡ urosepsis at day 14, transferred to ICU and died 3 months latter (patient w/ Diabetes Mellitus type 2).

Table 4 – Major surgery in patients with inhibitor:

Patient	Type of Hemophilia	Procedure	Total dose rFVIIa*/aPCC° (µg*/IU°)	Hospitalization days	Hemostatic outcome	Adverse events
12	A	Laparoscopic colecistectomy	287*	7	Excellent	–
13	A	Apendicectomy with segmentar ileotomy	898*/156000°	26	Good	–
14	A	Apendicectomy	125000°	13	Good	–
15	A	Total nephrectomy	660*	17	Good	–

Table 5 – Minor surgical procedures in HA and HB patients:

Patient	Type of Hemophilia	Procedure*	Total IU FVIII/FIX	Hospitalization days	Hemostatic outcome	Adverse events
16	A	Tonsilectomy with adenoidectomy	65000	5	Excellent	–
17	A	Multiple dental extractions	3000	0	Excellent	–
6	A	Skin debridement Skin graft	15000 23000	1 3	Good Good	– –
18	A	Femur osteotomy	17000	11	Good	–
19	A	Multiple dental extractions	22000	4	Excellent	–
20	A	Uretral stent Uretral stent	13000 13000	2 4	Excellent Excellent	– –
21	B	Prostatic braquiterapy	9000	2	Excellent	–

* Synoviarthrosis excluded

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C. Hermans *et al*; *Replacement therapy for invasive procedures in patients with hemophilia: literature review, European survey and recommendations*; in *Hemophilia*, 2009, 15: 639-658.