

Factor VII deficiency: evidence that in minor surgery one-day replacement therapy is sufficient

G. Mariani¹, A. Dolce², J. Ingerslev Jorgen³, A. Batorova⁴, M. Napolitano¹, J.F. Schved⁵, G. Di Minno⁶, G. Auerswald⁷, M. Giansilly-Blaizot⁸, S. Aronis⁹, S. Siragusa¹⁰, Ruiz de Saez¹¹, A. Tagliaferri¹².

¹Internal Medicine and Hematology-University of L'Aquila, Italy, ²National Institute of Statistics–Palermo-Italy, ³University of Arhus, Denmark, ⁴Reference Haemophilia Center, Bratislava, Slovakia, ⁵Central Laboratory CHU Montpellier, France, ⁶Internal Medicine-University of Naples Federico II, Italy, ⁷Departments of Pediatrics, University of Bremen, Germany, ⁸Central Laboratory CHU Montpellier, France, ⁹Department of Pediatrics, Athens, Greece, ¹⁰Haematology Unit, University of Palermo, Italy, ¹¹Haemophilia Center, Caracas, Venezuela, ¹²Ospedale Regionale, Parma, Italy

Introduction

Surgery-related bleeding is an issue in congenital bleeding disorders and little is known about “minor surgical interventions” (endoscopy with biopsies, arthroscopic surgery, lymph node biopsies, skin or breast biopsies, and complicated dental work) as defined by Kitchens (1).

Methods:

Thirty-eight such procedures were performed in 34 FVII-deficient patients within the frame of the STER, a prospective treatment registry (2), TAB.1. Replacement schedules were the choice of the physician in charge. Baseline FVIIc ranged: <1-20%. Reported interventions were: Oral Surgery and multiple dental extractions (n=8), single dental extractions (n=7), ENT and Head & Neck (n=5), catheter insertions (n=3), endoscopic biopsies (n=7) and mixed interventions (n=8). Replacement therapy (RT) resulted as follows: rFVIIa employed in 29 pt., pdFVII in 8 and FFP in 1. Antifibrinolytics were used in 16 pt. (in oral surgery: 11/16).

TAB.1: GENERAL DATA

		Males		Females	
		n (%)	symptomatic (%)	n (%)	symptomatic (%)
All	n=34	11 (32.3)	3 (27.3)	23 (67.6)	20 (86.9)
FVIIc levels (%)	≤1	0 (0.0)	0 (0.0)	9 (39.1)	8 (88.9)
	>1–10	5 (45.5)	1 (20.0)	9 (39.1)	9 (100.0)
	>10–20	6 (54.5)	2 (33.3)	5 (21.7)	2 (40.0)

TAB.2 MINOR SURGICAL PROCEDURES AND TREATMENT SCHEDULES

Minor Surgery Procedures	n	Replacement Therapy (RT)	RT days	Total n. of doses	Total dose µg/Kg IU/Kg	Anti-Fibrinolytics	Adverse events
Oral Surgery + Multiple extractions	8	rFVIIa 7 pdFVII 1	1 - 4	2 - 10	rFVIIa 19 – 60 pdFVII 1.3	5/8	Inhibitor (1 case)
Single extractions	7	rFVIIa 6 pdFVII 1	1	1 - 2	rFVIIa 14 – 110 pdFVII 300	6/7	NO
ENT and Head & Neck	5	rFVIIa 4 pdFVII 1	1 - 10	1 - 16	rFVIIa 7.2 - 400 pdFVII 112	2/5	NO
Catheters	3	pdFVII 2 FFP 1	1	1 - 4	pdFVII 18 – 29 FFP 50 ml/Kg	NO	NO
Endoscopies	7	rFVIIa 7	1	1 - 7	rFVIIa 10 - 300	2/7	NO
Mixed	8	rFVIIa 5 pdFVII 3	1 - 9	1 - 16	rFVIIa 15 - 60 pdFVII 60 - 370	1/8	NO

Conclusion

For most of the uncomplicated minor surgery procedures, one-day RT is sufficient with low to intermediate doses of rFVIIa (15 - 60 µg/Kg/bw). In complicated and elaborated interventions longer lasting RT schedules may be needed.

Results:

Overall, RT was given for one day in 27 procedures, employed namely in endoscopic biopsies (7/7), catheter insertions (3/3) and single dental extractions (7/7), TAB.2. In the remaining interventions (n=11, i.e. multiple dental extractions, tonsillectomies) RT was given for 2-10 days. Total rFVIIa dose ranged: 7.2-400 µg/Kg bw; total pFVII range: 9-300 IU/Kg. No bleeding or thrombotic events were recorded. In one patient, heavily treated with different RT, an inhibitor to FVII (max titre: 28 BU) appeared four weeks after the procedure.

References

- Kitchens CS. Surgery and hemostasis. in: Kitchens CS, Alving BM, Kessler CM (eds). Consultative Hemostasis and Thrombosis. 2nd edition, 2007. Saunders: Philadelphia. Chapter 37.
- Clinicaltrials.gov identifier # NCT01269138