



Supplementary Material

10.1302/2046-3758.106.BJR-2020-0357.R2

Table i. The differences in blood loss.

Variable	Group A (N = 50)	Group B (N = 50)	Group C (N = 50)	Group D (N = 50)	p-value*
Mean intraoperative blood loss, ml (SD)	153 (21)	153 (21)	150 (22)	151 (24)	0.930
Mean total blood loss, ml (SD)	605 (236)	791 (281)	845 (248)	1,065 (318)	< 0.001
Post-hoc test					
Group A		p = 0.005	p < 0.001	p < 0.001	

Group B	p = 0.005		p = 1.0	p < 0.001	
Group C	p < 0.001	p = 1.0		p < 0.001	
Group D	p < 0.001	p < 0.001	p < 0.001		
Mean hidden blood loss, ml (SD)	453 (225)	639 (282)	695 (249)	914 (322)	< 0.001
Post-hoc test					
Group A		p = 0.004	p < 0.001	p < 0.001	
Group B	p = 0.004		p = 1.0	p < 0.001	
Group C	p < 0.001	p = 1.0		p < 0.001	
Group D	p < 0.001	p < 0.001	p < 0.001		
Mean reduction in Hb, g/l (SD)	21.0 (7.8)	25.7 (9.4)	27.3 (7.2)	32.0 (7.5)	< 0.001
Post hoc test					
Group A		p = 0.024	p = 0.001	p < 0.001	
Group B	p = 0.024		p = 1.0	p = 0.001	
Group C	p = 0.001	p = 1.0		p = 0.024	

Group D	p < 0.001	p = 0.001	p = 0.024		
---------	-----------	-----------	-----------	--	--

*From one-way analysis of variance with post hoc Bonferroni test for independent means for continuous variables among the four groups.

Analysis of coagulation and fibrinolysis parameters (by rapid thromboelastographic analysis)

Coagulation and fibrinolysis parameters including activated clotting time (ACT), rate of thrombus formation (K time), maximum amplitude (MA), rate of thrombus formation (α -angle), and lysis rate at 30 minutes (LY30) were measured preoperatively and on postoperative day (POD) 1, 2, and 3 by rapid thromboelastographic analysis (rapid-TEG) using a TEG5000 Thrombelastograph Hemostasis Analyzer (Hemoscope Corporation, USA). Kaolin and tissue factors were used to activate blood samples for rapid-TEG.¹ Postoperative coagulation and fibrinolysis were enhanced in all four groups, according to the results of the laboratory. The results suggested that both coagulation and fibrinolysis increased after surgery, and fibrinolytic function peaked on POD 1, while coagulation function peaked on POD 2. Using carbazochrome sodium sulfonate does not increase coagulation and fibrinolysis rates, nor does it increase peaks. (Figure a).

1. Cotton BA, Faz G, Hatch QM, et al. Rapid thrombelastography delivers real-time results that predict transfusion within 1 hour of admission. *J Trauma*. 2011; 71(2):407-14; 414-7. doi: 10.1097/TA.0b013e31821e1bf0.

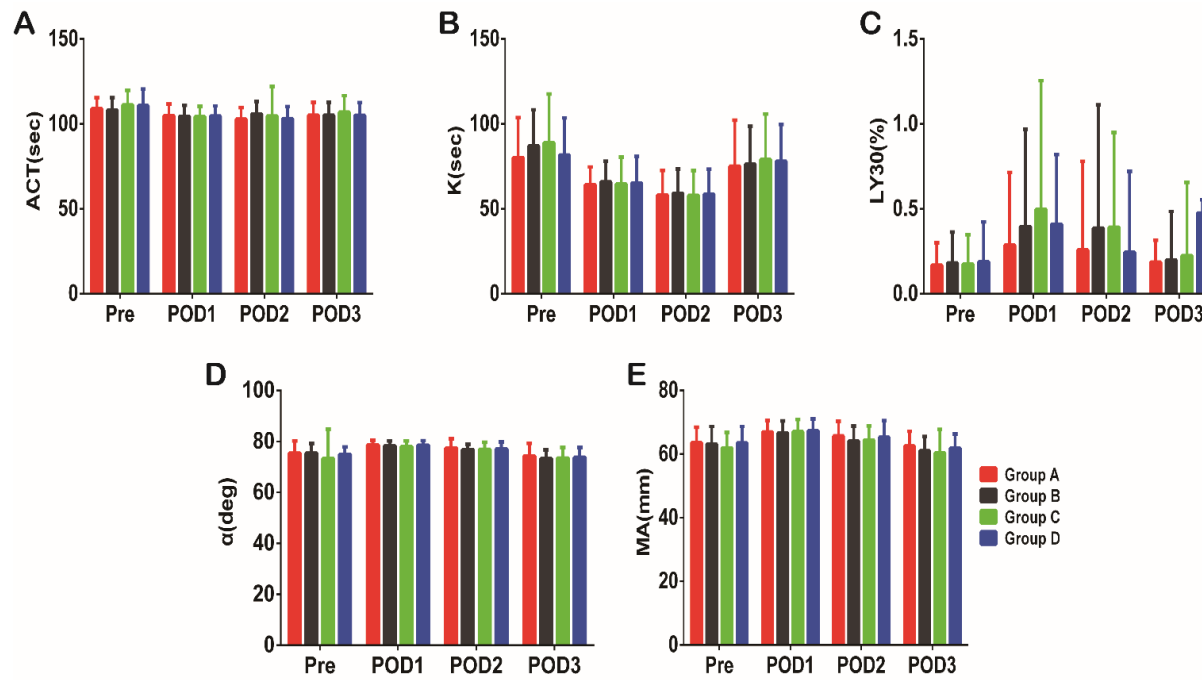


Figure a. Perioperative thromboelastographic analysis showing a) activated clotting time (ACT), b) K time, c) LY30, d) α -angle, and e) maximum amplitude (MA) value.

Table ii. p-value and correction p' value of perioperative outcome indicators. The correction p-value (P' value) = probability (P)/number of comparisons (K), correction alpha value (α') = alpha (α)/number of comparisons (K), K = 6, α = 0.05, correction alpha value (α') = 0.00833. Correction p-value (P' value) less than correction alpha value (α' = 0.00833) indicates that there is a statistical difference between the two groups.

Variable		A vs B	A vs C	C vs D	B vs C	B vs D	C vs D
Total blood loss	P value	0.005	< 0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	< 0.001	< 0.001	< 0.001	0.17	< 0.001	< 0.001
Hidden blood loss	P value	0.004	< 0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	< 0.001	< 0.001	< 0.001	0.17	< 0.001	< 0.001
Reduction in Hb	P value	0.024	0.001	< 0.001	1.0	0.001	0.024
	P' value	0.004	< 0.001	< 0.001	0.17	< 0.001	0.004
Postop. Flexion	P value	< 0.001	< 0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	< 0.001	< 0.001	< 0.001	0.17	< 0.001	< 0.001
VAS POD 1	P value	0.001	< 0.001	< 0.001	1.0	< 0.001	0.001
	P' value	< 0.001	< 0.001	< 0.001	0.17	< 0.001	< 0.001
VAS POD 2	P value	< 0.001	< 0.001	< 0.001	1.0	< 0.001	< 0.001

	P' value	< 0.001	< 0.001	< 0.001	0.17	< 0.001	< 0.001
ESR POD 1	P value	0.013	0.025	< 0.001	1.0	0.016	0.008
	P' value	0.002	0.004	< 0.001	0.17	0.0027	0.0013
ESR POD 2	P value	0.047	0.002	< 0.001	1.0	< 0.001	0.013
	P' value	0.0078	0.00033	< 0.001	0.17	< 0.001	0.0022
ESR POD 3	P value	0.021	0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	0.0035	0.00017	< 0.001	0.17	< 0.001	< 0.001
CRP POD 1	P value	0.045	0.031	< 0.001	1.0	< 0.001	< 0.001
	P' value	0.0075	0.0052	< 0.001	0.17	< 0.001	< 0.001
CRP POD 2	P value	0.049	0.006	< 0.001	1.0	< 0.001	0.001
	P' value	0.00816	0.001	< 0.001	0.17	< 0.001	< 0.001
CRP POD 3	P value	0.029	0.003	< 0.001	1.0	< 0.001	< 0.001
	P' value	0.0048	0.0005	< 0.001	0.17	< 0.001	< 0.001
IL-6 POD 1	P value	0.048	0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	0.008	0.00017	< 0.001	0.17	< 0.001	< 0.001
IL-6 POD 2	P value	0.025	0.001	< 0.001	1.0	< 0.001	< 0.001
	P' value	0.0042	< 0.001	< 0.001	0.17	< 0.001	< 0.001

IL-6 POD 3	P value	0.001	< 0.001	< 0.001	0.377	< 0.001	< 0.001
	P' value	< 0.001	< 0.001	< 0.001	0.063	< 0.001	< 0.001

Hb, haemoglobin; IL-6, interleukin-6; POD, postoperative day; VAS, visual analogue scale.