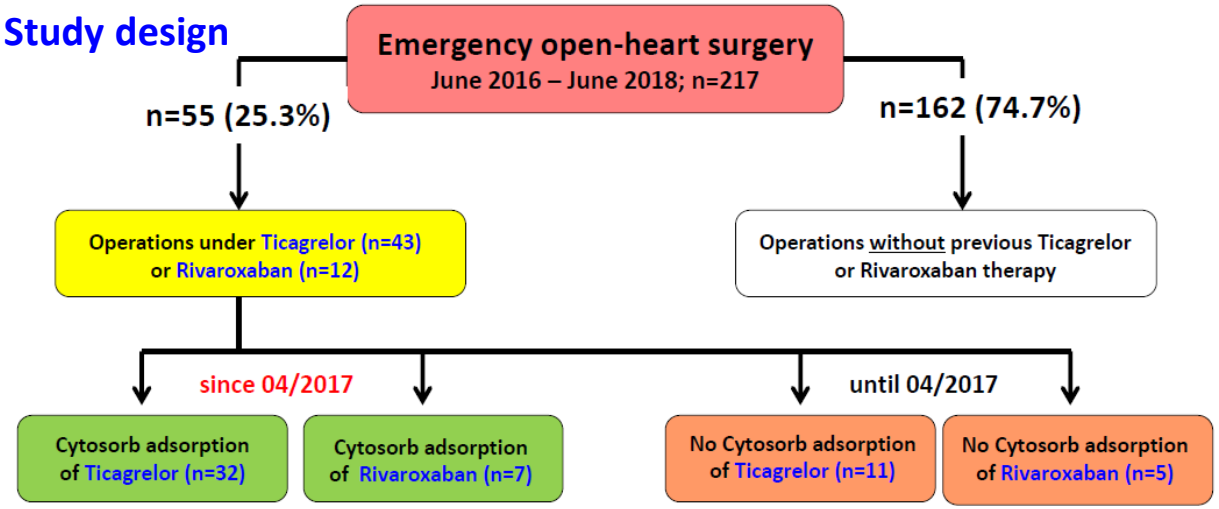
Intraoperative Removal of Ticagrelor and Rivaroxaban during emergency Cardiac Operations using a Cytokine Adsorber

M. Schmoeckel, K. Hassan, P. Wohlmuth, S. Geidel / Dept. of Cardiac Surgery, AK St. Georg, Hamburg, Germany

Study design



Preop. data

	Cytosorb Ticagrelor (n=32)	Cytosorb Rivaroxaban (n=7)	Control Ticagrelor (n=11)	Control Rivaroxaban (n=5)
LVEF (%)				
good (>50%)	47	57	36	40
moderate (31-50%)	47	14	64	40
poor (<30%)	6	29	0	20
Pathology (%)				
coronary artery dis.	100	100	100	100
aortic valve disease	9	-	-	-
mitral valve disease	3	-	9	-
aortic dissection	3	-	-	-
atrial fibrillation	13	100	18	100
EuroSCORE II (%)	3.1	3.9	3.1	3.3
Emergency (%)	100	100	100	100



Intraop. data

	Cytosorb Ticagrelor (n=32)	Cytosorb Rivaroxaban (n=7)	Control Ticagrelor (n=11)	Control Rivaroxaban (n=5)	p value
Surgical procedure					
CABG	84	100	91	100	
CABG + AVR	9				
CABG + MVR	3		9		
Aortic replacement	3				
Concomitant surgery					
Afib ablation	9	43	9	40	
LAA occlusion	6	14	9	40	
Time-related outcome					
CPB time	115	80	108	97	.41
X clamp time	77	81	64	70	.54
Total duration	288	184	353	309	.004

Postop. data

	Cytosorb Ticagrelor (n=32)	Cytosorb Rivaroxaban (n=7)	Control Ticagrelor (n=11)	Control Rivaroxaban (n=5)	p value
Rethoracotomy	0	0	36	40	.0003
Drainage volume (24hrs)	350	390	890	600	.004
Days in ICU	2	2	3	6	.01
Total length of stay (days)	11	11	14	18	.02
Platelet transfusion (%)	34,4	28,6	100	100	.047
RBC transfusion (%)	21,9	14,3	45,5	100	.012

Conclusion: Intra-operative use of a cytokine adsorber for removal of Ticagrelor and Rivaroxaban is a safe and effective method to reduce bleeding complications. We recommend the routine use as long as appropriate antidots are not available.