

COMPARISON OF EARLY POSTOPERATIVE RESULTS OF ON-PUMP VERSUS OFF-PUMP CORONARY BYPASS GRAFTING SURGERY

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Introduction

Assisted by cardiopulmonary machine (CPB), CABG surgery is performed safely with excellent outcomes. Due to the adverse events linked to the CPB, the off-pump CABG becomes an acceptable alternative particularly in patients with calcified proximal aorta. Critics of off-pump CABG often refer to the long learning curve and difficult building cumulative surgical experience. Off-pump CABG has been always a matter of debate. Off-pump CABG becomes highly appealing due to minimal invasiveness of the procedure, suitability to some population and better early outcomes.

Aim of the work

This study evaluates the early postoperative outcomes of off-pump CABG compared to on-pump CABG.

Subjects and Methods

First eligible comers in the period between 2018-2019. The following points were compared between the two groups: Amount of bleeding, length of stay, duration of mechanical ventilation, operative time, completion of revascularization, complications; atrial fibrillation, neurological deficits, acute kidney injury.

Results

Table1: Comparison of Postoperative Outcomes in Both Groups

	Groups	N	Mean	Std. Deviation	P value
Bleeding (ml)	on-pump	40	554.25	256.164	< 0.001
	off-pump	40	380.0	106.069	
Length of Stay in ICU (Days)	on-pump	40	5.23	2.616	< 0.001
	off-pump	40	3.68	.526	
Mechanical ventilation (hour)	on-pump	40	10.73	15.317	0.005
	off-pump	40	4.50	.679	

Table2: Incidence of Postoperative Complications in Each Group

Groups		AKI		AF		Neurological Complications	
		No Count	Yes Count	No Count	Yes Count	No Count	Yes Count
on-pump		40	0	39	1	39	1
off-pump		40	0	38	2	40	0

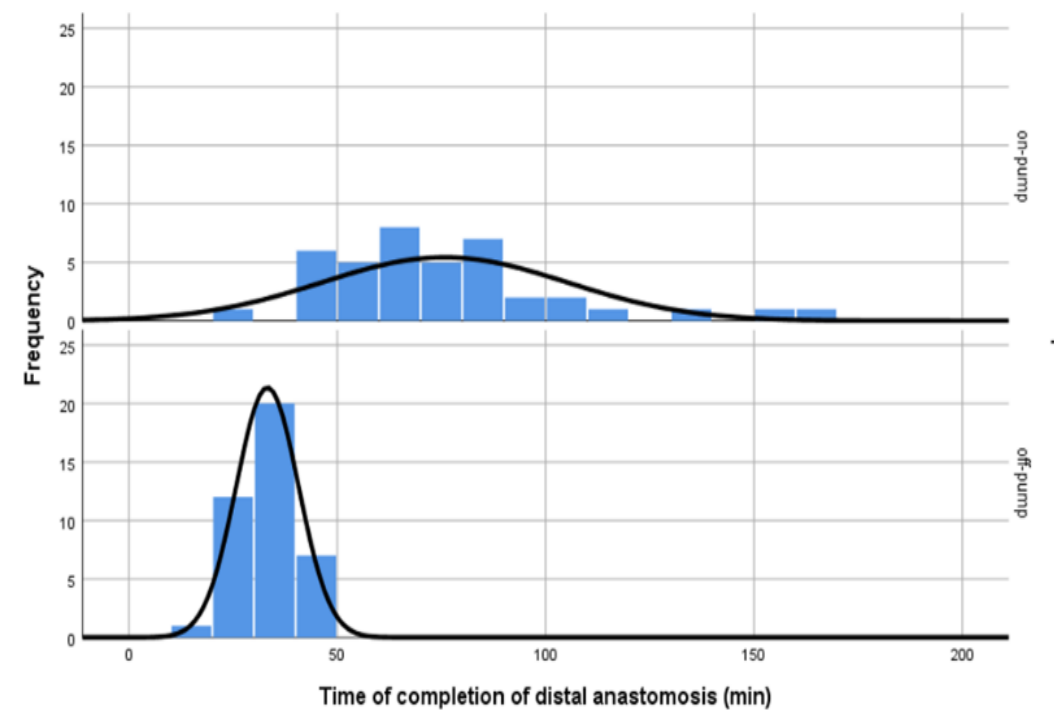


Figure 1: Comparison of the time needed to complete distal anastomoses in Both Groups

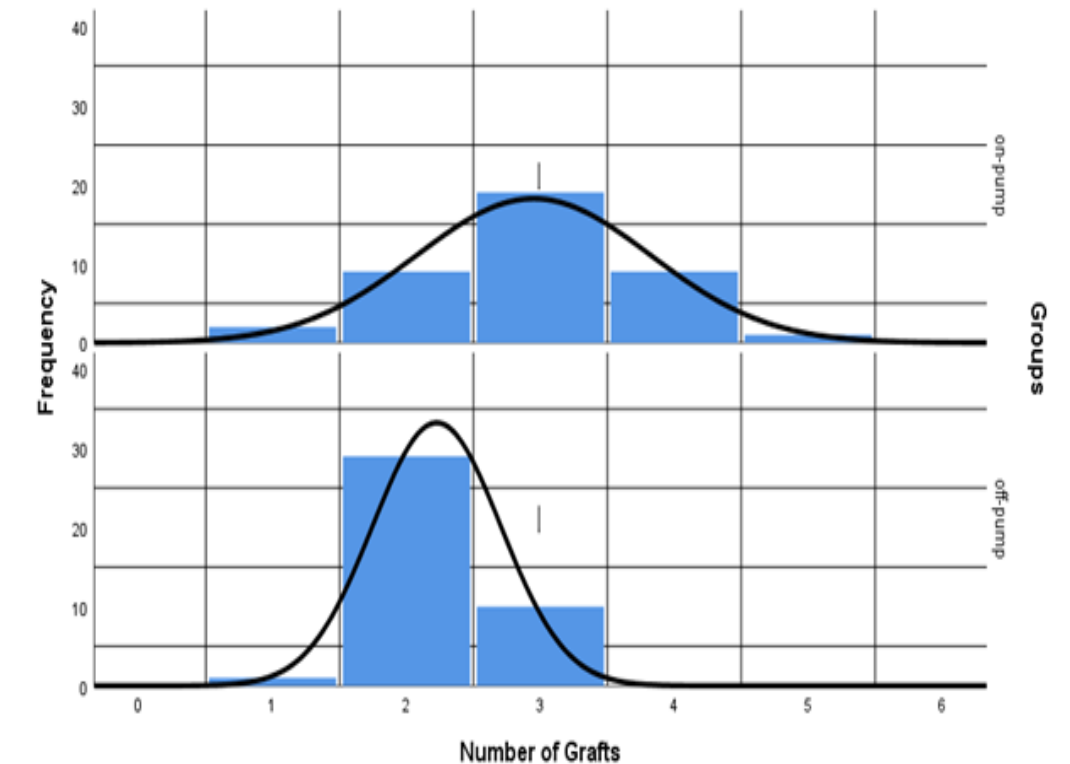


Figure 2: Comparison of number of grafts in both groups

Conclusion

The argument surrounding the potential advantages and safety of the off-pump is difficult to be settled. Off-pump CABG, in the hands of trained surgeons, offers favorable short-term outcomes particularly in patients with complex co-morbidities. It is highly indicated in heavily calcified aorta to avoid the thromboembolic events. The decision should be made on individual basis, taking into consideration the potential long-term adverse outcomes.