

Coronary Endarterectomy Outcomes In Patients Undergoing Cabg: An Experience Of Qatar Over The Last Decade

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Background:

Coronary Endarterectomy (CE), once the only available method of surgical revascularization, was kept off the table when Coronary Artery Bypass Surgery (CABG) was introduced. In the current era, adding Coronary Endarterectomy to conventional CABG is a topic of controversy due to risks and benefits associated with this procedure. In this study we reviewed our patients who have undergone CE in addition to CABG and compared them with those who have undergone CABG alone.

Methods:

Patients who had undergone Isolated CABG, from 2013 to 2023 in our center were reviewed retrospectively. Out of 3013 patients, 71 had undergone coronary endarterectomy (CE Group). Another group of 140 patients who had undergone only CABG (Non-CE Group) were 2:1 propensity matched based on Age, Gender and Logistic EUROSCORE II (European System for Cardiac Operative Risk Evaluation), Patients with incomplete operative documents on electronic medical record system were excluded. Univariate analysis was used to compare preoperative, intraoperative and postoperative variables these two groups and subsequently data was further analyzed in logistic regression model.

Results:

By Univariate analysis we found out that preoperative risk factors were similar among both groups. Intraoperatively, CE group had longer cross clamp time (69±31 min) as compared to Non-CE group (57±23 min) (P = 0.005) and both groups had similar intraoperative complications rate. Early Postoperative mortality was similar in both groups 1/64 (1.5%) and 1/135 (0.75%) (P Value=0.595). Infective complications were higher in CE group 4/61 (6.6 %) Vs 1/125 (0.8 %) Non-CE group (P Value=0.020), which can be related to longer operative time. After one year of robust follow-up, both groups had similar incidence of typical chest pain complaint 8/63 (12.7%) vs 23/135 (17%) (P Value=0.434); Need for re-angiography 6/64 (9.4%) vs 6/135 (4.4%) (P Value=0.204); postoperative MI 3/63 (4.8%) vs 4/133 (3.0%) (P Value=0.538) in CE and Non-CE groups, each respectively. Readmission rate was slightly higher in CE group 11/64 (17.2%) as compared to Non-CE group 11/135 (8.1%) but statistically not significant (P Value=0.058).

Table 1				
Early Postoperative outcomes				
	CE Group	Non-CE Group	Chi Square Value	P Value
30 days Mortality	1 (1.5 %)	1 (0.7 %)	.282	1.000
Overall Complication	11 (18 %)	22 (16.5 %)	0.66	.829
Readmission to ICU	1 (1.6%)	2 (1.5 %)	0.001	1.000
Need for reoperation	3 (4.8 %)	5 (3.8 %)	2.177	.427
Infective complication	4 (6.6 %)	1 (0.8 %)	5.142	.020
Pulmonary complication	1 (1.6 %)	4 (3.1 %)	.392	.643
Postoperative stay	7.98 ± 5.695	6.81 ± 5.222	2.043	.176
	Note: Data are expressed as mean SD or N (%)			
	P <0.05 Vs Non- CE Group			

Table 3				
Intraoperative details and complications				
	CE Group	Non-CE Group	Chi Square Value	P Value
Cross Clamp Time	69.05 ± 31.767	57.89 ± 23.700	6.696	.005
Off Pump	2 (3.2%)	7 (5.5%)	.495	.729

Table 2				
1 year Follow-up				
	CE Group	Non-CE Group	Chi Square	P Value
Chest pain complain	8 (12.7 %)	23 (17 %)	.612	.573
Post-Operative MI	3 (4.8%)	4 (3.0%)	.382	.693
ECG Changes	7 (5.2 %)	1 (1.6 %)	1.455	.322
EF in 1 year	47.82 ± 10.336	50.71 ± 10.956	46.832	.357
Need for re-angiography	6 (9.4 %)	9 (6.7 %)	.457	.568
Need for readmission	11 (17.2 %)	11 (8.1%)	3.608	.121
	Note: Data are expressed as mean SD or N (%)			
	P <0.05 Vs Non- CE Group			

CONCLUSION

In our study, adjunctive coronary endarterectomy was associated with longer cross clamp time intra-operatively. In terms of postoperative complications, in-hospital mortality and 6 months follow-up outcome, coronary endarterectomy was not associated with any further adverse outcome. Hence, it can be considered as an acceptable tool in the armamentarium of cardiac surgeons to establish complete revascularization.

REFERENCES

1. Outcome of coronary endarterectomy with coronary artery bypass grafting in patients with diffuse coronary artery disease in Bangladesh: A retrospective cohort study Redoy Ranjan1, Dipannita Adhikary2, Sabita Mandal3, Anjali Seedher4 and Asit Baran Adhikary1