



Presentation 2 – 2B

Enhanced Recovery after Coronary Surgery: Novel Education Software Platform to Improve Patient Outcomes.

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Purpose:

Enhanced Recovery After Surgery (ERAS) is a paradigm shift, striving for improved outcomes and cost savings. Initially, “fast-track” surgery described an improved recovery program after coronary revascularization in 1994. We utilized novel patient education software to improve our ERAS program and coronary artery bypass grafting (CABG) outcomes.

Methods:

We partnered with a software platform that provides patient education, tracking, monitoring, and reporting in: 1) pre-operative, 2) in-hospital, and 3) post-operative phases. Patients undergoing CABG in the first six months of our ERAS program were compared with concomitant patients undergoing CABG, not enrolled in ERAS. We evaluated APDRG risk of mortality, length of stay, number of emergency department (ED) visits, re-admissions, office phone calls, discharge to skilled nursing facility (SNF), and total charges. Primary outcomes were ED visits, and re-admissions. Secondary outcomes were discharge to SNF and office phone calls.

Results:

One-hundred patients underwent CABG during the study period; 33 were enrolled in ERAS, 67 were not. Average age was 62.7 years ($SD \pm 10.7$) in ERAS vs 67.5 years ($SD \pm 9.5$) in non-ERAS patients ($p=0.1$). The APRDG risk of mortality was 2.52% in ERAS vs 2.88% in non-ERAS patients ($p=0.09$). Length of stay was 9.0 days in ERAS vs 13.3 days in non-ERAS patients ($p<0.05$). Number of ED visits were 2 in ERAS vs 19 in non-ERAS patients ($p<0.05$). There was 1 re-admission in ERAS vs 12 in non-ERAS patients ($p<0.05$). Discharge to SNF was 1% in ERAS vs 19.4% in non-ERAS patients ($p<0.05$). There were 9 phone calls to the office in ERAS vs 11 in non-ERAS patients ($p=0.160$).

Conclusion:

ERAS proposes to decrease length of stay, costs, and improve patient outcomes. Implementation of a novel patient centered software platform reduced ED visits, readmissions, and decreased discharge to SNF, in patients undergoing CABG.

1. Results

Factor	ERAS	Non-ERAS	Difference	P Value
N	33	67		
Age (avg)	62.7	67.5	- 4.8 years	P = 0.1
APRDRG - Risk of mortality	2.52	2.88	- 0.36 units	P = 0.09
LOS (avg)	9.0	13.28	- 4.28 days	P = < 0.05
Pre-op LOS	2.45	4.58	- 2.13 days	P = 0.05
Post-op LOS	6.48	8.68	- 2.2 days	P = < 0.05
# of Readmissions	1	12	- 11 days	P = < 0.05
Readmissions (%)	3.0%	17.9%	↓142%	
# of ED Visits	2	19	- 17 visits	P = < 0.05
ED Visits (%)	6.0%	28.3%	↓130%	
# of phone calls	9	11	- 2 calls	P = 0.160
Phone call (%)	18%	11.9%	40%	
Discharge to SNF (%)	1%	19.4%	↑↓ 180%	P = < 0.05
Total Charges (avg)	\$ 204,838	\$ 251,771	↓ \$ 46,933	

Outcomes in ERAS vs Non-ERAS CABG Patients