

A single Institution 13 Year experience with CABG and Trends of Sternal wound Infection

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INTRODUCTION

Sternal wound infections (SWI) are a complication during the post-operative period following coronary artery bypass grafting (CABG) in the treatment of coronary artery disease (CAD). Due to the increasing reach of percutaneous coronary intervention (PCI) as an alternative, a less invasive treatment of CAD, we propose that CABG has become increasingly reserved for patients with higher comorbidity burdens, leading to an increase risk of complications and SWI rate following CABG. We aimed to determine trends in patients undergoing CABG, as well as trends in DSWI following the surgery.

Methods: A database was collected that included a retrospective cohort of patients that underwent CABG as a treatment for CAD from January 2012 to March 2025. Inclusion criteria included any patients that underwent CABG at the University of Mississippi Medical Center. Data collected included demographic data, BMI, comorbidities, smoking history and type of reconstruction.

METHODS

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RESULTS

A total of 1086 had sufficient data for analysis.

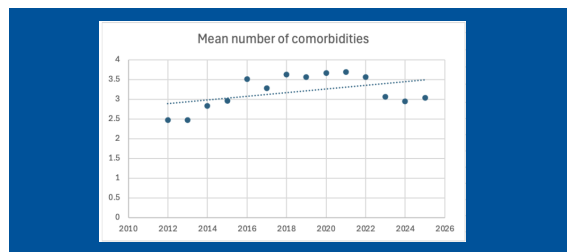


Figure 1. Mean number of comorbidities among CABG patient population over time.

Comorbidity	Odds Ratio (per year)	p-value	Interpretation
CKD	1.081	<0.001	Significant increase
Atrial Fibrillation	1.053	0.026	Significant increase (poor fit)
PAD	1.045	0.053	Trended towards Increase
Diabetes Mellitus	1.026	0.097	No significant change
COPD	0.959	0.105	No significant change

Table 2. Trends in individual comorbidities over time in CABG patient population.

RESULTS HIGHLIGHTS

- The CABG patient population showed an increased number of comorbidities over time
- Higher prevalence of CKD, Atrial fibrillation and PAD

Comorbidity	Comorbidity Prevalence, SWI vs. no SWI	Chi-square p-value
Diabetes	3.1% vs 2.4%	0.456
COPD	3.8% vs 2.7%	0.496
CKD	2.3% vs 2.9%	0.671
PAD	1.3% vs 3.0%	0.417
Heart Failure	1.5% vs 3.2%	0.167
Atrial Fibrillation	2.1% vs 2.9%	0.788
Liver Disease	4.3% vs 2.7%	0.369
Hypertension	2.6% vs 4.6%	0.212
Hyperlipidemia	2.8% vs 2.7%	0.910
Hypercoagulability	0% vs 2.8%	1.000
History of Cancer	1.8% vs 3.0%	0.607
History of Stroke	1.5% vs 2.9%	0.568
History of TIA	4.2% vs 2.7%	0.389
Smoking	2.5% vs 3.1%	0.553

Figure 3. Association of individual comorbidities with occurrence of SWI following CABG.

CONCLUSION

Sternal wound infections after CABG can cause significant morbidity and mortality.

With advances in the minimally invasive interventions available for management of CAD patients undergoing CABG have now more comorbidities; however, the risk of developing a sternal wound has not changed over time suggesting that it continues to be a safe procedure even as our patient population becomes medically complex.

No Individual co-morbidity was identified as an independent predictor for the development of sternal wound infections

CONTACT INFORMATION



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