2020 Annual Meeting
August 2 – 4, 2020 | Mackinac Island, MI
Grand Hotel

22. DISCHARGE TIMING: DOES TARGETING AN IDEAL LENGTH OF STAY FOR PATIENTS UNDERGOING COLECTOMY IMPACT READMISSIONS AND COSTS OF CARE?

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Background: In colorectal surgery, efforts to improve quality and decrease costs of care through implementation of enhanced recovery protocols have led to hospital length-of-stay (LOS) as low as 23 hours. Concerns remain about increased readmission rates. We evaluate a predictive model targeting an ideal LOS (iLOS), and the timing of discharge on readmission after colectomy.

Methods: The Healthcare Cost and Utilization Project-State Inpatient Databases and the American Hospital Association Databases from 2009-2014 combined patient and hospital-level data from four states. Left and right colectomy patients were identified by primary procedure code, stratified by surgical approach (Lap-Left, Open-Left, Lap-Right, Open-Right), and propensity-matched for readmission based on patient factors. We predicted iLOS for patients in each cohort using multivariate linear regression. Based on iLOS we created a discharge timing variable and used multivariate logistic regression to analyze its effect on 90-day readmissions.

Results: Of 100,701 patients, 6903 (6.85%) were Lap-Left, 16,883 (16.77%) were Open-Left, 32,173 (31.95%) were Lap-Right, and 44,742 (44.43%) were Open-Right. Early discharge (> 4 days before iLOS) and late discharge (> 4 days after iLOS) were significant predictors of readmission in Lap-Left (model AUC=0.58, p-value ≤0.05) and Open-Right (model AUC=0.64, p-value ≤0.05). In Lap-Right, only early discharge was a significant predictor of readmission (model AUC=0.58, p-value ≤0.01).

Conclusion: Targeting an iLOS based on predictive modeling using patient characteristics may optimize discharge timing after colectomy, and avoid unplanned readmissions and increased healthcare costs; particularly for vulnerable patient groups that may not be good candidates for a rigorous perioperative protocol and telemedicine.