



Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020
4:00pm – 6:15pm Pacific Time
– Virtual Meeting --

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P 5. DOES PRE-OPERATIVE ESTIMATED GLOMERULAR FILTRATION RATE (EGFR) PREDICT SHORT-TERM SURGICAL OUTCOMES IN PATIENTS UNDERGOING PANCREATIC RESECTIONS?

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Background: Preoperative eGFR has been found to be a reliable predictor of post-operative outcomes in patients with normal creatinine levels who undergo surgery. The aim of our study was to evaluate the impact of preoperative eGFR levels on short-term post-operative outcomes in patients undergoing pancreatectomy.

Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) pancreatectomy file (2014-2017) was queried for all adult patients (age ≥ 18) who underwent pancreatic resection. Pancreatic procedures analyzed included Pancreaticoduodenectomy (PD), distal pancreatectomy (DP), and other procedures (OTH) using CPT codes. Patients on preoperative renal dialysis were excluded from the study. Patients were stratified into two groups based on their preoperative eGFR; (eGFR < 60 mL/min/1.73m² and eGFR ≥ 60 mL/min/1.73m²). Outcome measures included post-operative pancreatic fistula, discharge disposition, hospital length of stay, 30-day readmission rate, 30-day morbidity, and mortality. Multivariate logistic regression analysis was performed.

Results: A total of 21,148 were included in the study of which 12% (n=2,256) had preoperative eGFR < 60 mL/min/1.73m². In terms of procedures, 62% had PD, 31.2% had DP and 6.8% had other procedures. The mean age was 63.3 ± 12.6 years, 49.6% were females and 15.6% received neoadjuvant chemotherapy. Patients in the eGFR < 60 group were more likely to be older (70.5 ± 9.3 years vs. 62.4 ± 12.7 years, $p < 0.01$), white (88.5% vs. 85.3%, $p < 0.01$) and have higher ASA3 class (78% vs. 68.3%, $p < 0.01$). On univariate analysis, patients in the eGFR < 60 group had prolonged length of stay (75th Percentile, 10 days; 32.6% vs. 27.1%, $p < 0.01$), were less likely to be discharged home (10.6% vs. 20.2%, $p < 0.01$), had higher minor (37.9% vs. 29.7%, $p < 0.01$) and major (23.1% vs. 19%, $p < 0.01$) complication rates, and higher rates of mortality (2.7% vs. 1.2%, $p < 0.01$). There was no difference between the two groups in terms of readmission rate and postoperative pancreatic fistula formation. On multivariate logistic regression controlling for age, gender, race, BMI, preoperative comorbidities, operative time, preoperative albumin levels, recipient of neoadjuvant therapy, and procedure type, lower preoperative eGFR (< 60 mL/min/1.73m²) was associated with higher odds of prolonged length of stay [aOR: 1.294 (1.166-1.436)], adverse discharge disposition [aOR: 1.860 (1.644-2.103)], minor [aOR: 1.460 (1.321-1.613)] and major complications [aOR: 1.214 (1.086-1.358)], bleeding requiring transfusion [aOR: 1.861 (1.656-2.091)], as well as



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mortality [aOR: 2.064 (1.523-2.797)]. No association was found between preoperative eGFR and 30-days readmission and post-operative fistula formation.

Conclusion: Preoperative decreased renal function measured by eGFR appears to be associated with adverse outcomes in patients undergoing pancreatic resection. The results of this study may aid in improving preoperative risk-stratification, resource allocation, and discharge planning.