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Anastomotic Leak Following Anterior Resection for Rectal Cancer: Does the Presence of a Defunctioning Stoma Reduce the Burden of a Leak ?

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**Anastomotic Leak Following Anterior Resection for Rectal Cancer: Does the Presence of a Defunctioning Stoma Reduce the Burden of a Leak ?**

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Objective: To examine if the presence of a defunctioning stoma performed during anterior resection for rectal cancer affects outcomes when an anastomotic leak occurs. Methods Using the Nationwide inpatient sample 2004-2010, we performed a retrospective review of rectal cancer cases that underwent anterior resection. We identified cases that leaked and divided them into two groups based on the presence or absence of a defunctioning stoma. All cases that received a stoma in response to a leak were excluded from our analysis. We only included patients who had a defunctioning stoma created during the original procedure. Patient demographics and comorbidities were listed. Multivariate regression analysis was used to compare outcomes between cases that had a defunctioning stoma and leaked and cases that leaked but did not have a stoma. Results: We identified 3,099 anterior resections that leaked. A stoma was present in 28.6% of cases, especially in male patients (31.7% vs. 22.7%  $p < 0.01$ ). When a leak occurred, the presence of a defunctioning stoma did not reduce mortality (OR=1.07; 95%CI 0.51-2.27;  $p=0.85$ ). However, the presence of a stoma was associated with an increased risk of infectious complications (OR=1.50; 95%CI 1.24-1.82;  $p < 0.01$ ), sepsis (OR=1.58; 95%CI 1.08-2.32;  $p=0.05$ ), an increased length of stay by 2.46 days ( $p < 0.01$ ). Furthermore patients with a defunctioning stoma had lower likelihood of routine discharge (OR=0.18; 95%CI 0.14-0.22;  $p < 0.01$ ). Conclusion: The presence of a defunctioning stoma does not appear to reduce the burden of anastomotic leak following anterior resection for rectal cancer.

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