

Oncological and Clinical Impacts of Routine Splenic Flexure Mobilization in Anterior Resection

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Abstract:

Background: Splenic flexure mobilization (SFM) is widely regarded as one of the most challenging steps in laparoscopic and robotic colorectal surgery, sparking ongoing debate. Some surgeons routinely advocate for SFM, citing its role in achieving greater left colonic reach, which facilitates a safe, tension-free, and well-vascularized anastomosis while adhering to oncological principles. Conversely, others argue that SFM does not consistently ensure these benefits and may increase the risk of complications, including splenic, bowel, or vascular injuries, as well as unnecessarily prolonging the procedure. While traditional surgical textbooks consider SFM a mandatory step in open colorectal resections, limited evidence supports its necessity in minimally invasive approaches.

Aim: This study aims to evaluate whether routinely mobilizing the splenic flexure offers advantages from both oncological and clinical perspectives.

Materials and methods: This retrospective cohort study evaluated the oncological and clinical outcomes of SFM versus splenic flexure preservation (SFP) in anterior resections for malignant pathologies. The study was conducted at New Cross Hospital in Wolverhampton, United Kingdom, over a 24-month period, from March 2022 to March 2024. Anterior resections for benign pathologies were excluded. Data analysis was performed using IBM SPSS Statistics for Windows, Version 24.0 (Released 2016; IBM Corp., Armonk, NY, USA) and Microsoft Excel (Microsoft Corporation, Redmond, WA, USA).

Results: This study included 94 patients, with 65 undergoing SFM and 29 having it preserved (SFP). No significant differences in baseline demographics (age and gender) were observed between the groups. Oncological outcomes revealed a significantly longer median length of resected specimens in the SFM group, although lymph node counts and high vascular ties were comparable between the groups. There were no differences in R0 resection rates. Clinical outcomes showed similar hospital stays and operation durations in both groups. The SFM group had a slightly higher rate of stoma formation but a lower incidence of anastomotic leaks compared to the SFP group. No significant differences in splenic injuries or other complications were noted.

Conclusions: Our study suggests that routine SFM offers certain oncological and clinical benefits. The specimens obtained were more complete for pathological staging. The additional length gained from the maneuver not only results in longer specimens but also provides sufficient mobility of the remaining colon, enabling anastomosis with minimal tension, which helps prevent anastomotic leaks. Surgeons may consider adjusting their practices based on the findings of this study.