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Incidence and Risk Factors for Anastomotic Failure in 1594 Patients Treated by Transanal Total Mesorectal Excision: Results From the International TaTME Registry

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Abstract

Objective: To determine the incidence of anastomotic-related morbidity following Transanal Total Mesorectal Excision (TaTME) and identify independent risk factors for failure.

Background: Anastomotic leak and its sequelae are dreaded complications following gastrointestinal surgery. TaTME is a recent technique for rectal resection, which includes novel anastomotic techniques.

Methods: Prospective study of consecutive reconstructed TaTME cases recorded over 30 months in 107 surgical centers across 29 countries. Primary endpoint was "anastomotic failure," defined as a composite endpoint of early or delayed leak, pelvic abscess, anastomotic fistula, chronic sinus, or anastomotic stricture. Multivariate regression analysis performed identifying independent risk factors of anastomotic failure and an observed risk score developed.

Results: One thousand five hundred ninety-four cases with anastomotic reconstruction were analyzed; 96.6% performed for cancer. Median anastomotic height from anal verge was 3.0 ± 2.0 cm with stapled techniques accounting for 66.0%. The overall anastomotic failure rate was 15.7%. This included early (7.8%) and delayed leak (2.0%), pelvic abscess (4.7%), anastomotic fistula (0.8%), chronic sinus (0.9%), and anastomotic stricture in 3.6% of cases. Independent risk factors of anastomotic failure were: male sex, obesity, smoking, diabetes mellitus, tumors >25 mm, excessive intraoperative blood loss, manual anastomosis, and prolonged perineal operative time. A scoring system for preoperative risk factors was associated with observed rates of anastomotic failure between 6.3% to 50% based on the cumulative score.

Conclusions: Large tumors in obese, diabetic male patients who smoke have the highest risk of anastomotic failure. Acknowledging such risk factors can guide appropriate consent and clinical decision-making that may reduce anastomotic-related morbidity.