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POSTOPERATIVE COMPLICATIONS AND EXTENT OF SURGERY AS DETERMINANTS OF REHABILITATION POTENTIAL IN PATIENTS WITH GASTRIC CANCER

PhD Asatullayev A.F.
Samarkand State Medical University, Samarkand, Uzbekistan.

Background. The type and extent of gastrectomy affect postoperative anatomy, food tolerance and nutritional recovery. Severe postoperative complications can further disrupt mobilization, delay adjuvant treatment and prolong dependence on caregivers. The relationship between extent of surgery and rehabilitation outcomes may, however, be confounded by tumor location, stage, baseline frailty and indication for more extensive procedures.

Objective. To assess the independent and combined associations of operative extent and postoperative morbidity with functional and nutritional rehabilitation after gastric cancer surgery.

Materials and Methods. A longitudinal cohort will enroll adult patients treated with subtotal or total gastrectomy for gastric adenocarcinoma. Clinical and tumor variables, treatment sequence, operative approach, reconstruction type, lymphadenectomy extent, operative duration, blood loss and concomitant organ resection will be documented. Postoperative complications will be graded using the Clavien–Dindo classification and separately characterized by type, timing and need for intervention. Complication ascertainment will extend to 30 days, with 90-day events reported when available. Baseline nutritional risk, sarcopenia, frailty, performance status and preoperative quality of life will be measured.

Outcome Measures. The primary outcome will be recovery of functional independence by postoperative day 90, assessed against preoperative status with a validated instrument. Secondary outcomes will include mobility, nutritional status, percentage weight loss, symptom burden, length of stay, readmissions, discharge destination, return to work or usual activities and EORTC quality-of-life scores. A six-month follow-up is recommended to capture persistent consequences of total gastrectomy and major complications.

Statistical Analysis. Outcomes will be compared across surgical categories and complication severity strata. Multivariable regression models will adjust for baseline confounders, including stage, tumor location, comorbidity, frailty, nutritional risk and treatment sequence. Interaction between operative extent and complications will be explored. Because postoperative complications arise after the operative exposure, analyses will distinguish total associations from exploratory mediation pathways and will avoid interpreting all adjusted associations as causal. Sensitivity analyses may exclude emergency surgery and multivisceral resections.

Expected Results and Scientific Significance. Major complications are expected to identify a subgroup with greater rehabilitation needs, while total gastrectomy may be associated with sustained nutritional challenges. The study is designed to quantify these relationships and distinguish modifiable postoperative pathways from pre-existing patient risk. Actual magnitudes and statistical significance will be reported only after cohort analysis.

Conclusion. Joint assessment of surgical extent, complication severity and preoperative vulnerability could enable earlier referral to tailored rehabilitation services. Findings may inform postoperative surveillance intensity, nutritional follow-up and multidisciplinary discharge planning.

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Keywords. gastric cancer; total gastrectomy; subtotal gastrectomy; postoperative complications; Clavien–Dindo; rehabilitation potential; functional independence.

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