

Study on the relationship between 5-factor modified frailty index and perioperative outcomes of benign total hysterectomy

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ABSTRACT

Introduction: The 5-factor modified frailty index (5-mFI) has been validated in gynecologic oncology patient populations, however its utility has not been evaluated in benign total hysterectomy. **Objective:** This study aimed to determine the impact of 5-mFI on perioperative outcome among patients undergoing laparoscopic benign total hysterectomy, explore its application value in the evaluation and prediction of clinical practice. **Materials and Methods:** The clinical data of 219 cases who underwent laparoscopic total hysterectomy for benign diseases from January 2020 to December 2022 were retrospectively analysed. The patients were divided into three groups: 0, 1 and ≥ 2 score according to 5-mFI score criteria. The indicators of age, BMI, operation time, blood loss during operation, postoperative complications, length of stay, cost of hospitalization were analyzed. **Results:** The age of participants with a frailty score of ≥ 2 (67.0 ± 7.6) was higher than the age of participants with a frailty score of 1 (61.2 ± 6.6) and the age of participants with a frailty score of 0 (60.7 ± 6.5). The BMI of participants with a frailty score of 1 (24.6 ± 3.7) and the BMI of participants with a frailty score of ≥ 2 (24.0 ± 4.0) were relatively higher compared with the BMI of participants with a frailty score of 0 (23.1 ± 2.9), indicating that the patients were more vulnerable to frailty with increased age and BMI. Compared with the operative time with a frailty score of 0 (105 minutes), the operative time with a frailty score of 1 (120 minutes) and the operative time with a frailty score of ≥ 2 (107.5 minutes) were prolonged; the difference of intraoperative blood loss was statistically significant among different frailty groups and the intraoperative blood loss (12.5 litres) with frailty score ≥ 2 was greater than that with frailty score of 1 (12.0 litres) and 0 (9.0 litres), indicating that with the increase of frailty score, the operation time could be prolonged and the intraoperative blood loss could be increased. Patients with a frailty score of ≥ 2 and 1 had significantly longer hospital stays and higher total costs than patients with a frailty score of 0, suggesting that more frailty patients may require longer recovery time and higher medical costs. There was no significant difference in the incidence of complications among the three groups ($X^2=1.595$, $p=0.45$), which may be due to insufficient data. **Conclusions:** 5-mFI screening before total hysterectomy may assist patients' selection and improve the postoperative outcome.