

Prevalence and risk factors of preoperative malnutrition risk in older patients and its impact on surgical outcomes: a retrospective observational study

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Aim

Elderly patients are vulnerable to malnutrition and we have started systematic screening for preoperative malnutrition risk in Singapore General Hospital. This study aims to determine the prevalence and risk factors of preoperative malnutrition risk amongst elderly surgical patients, and its impact on surgical outcomes.

Methodology

This was a retrospective cohort study of 1,033 patients ≥ 65 years old coming for elective surgery. Data captured include patient demographics, number of medications, preoperative effort tolerance, Malnutrition Universal Screening Tool (MUST) score, ASA physical status, Charlson Comorbidity Index (CCI) and Edmonton Frailty Score (EFS). Postoperative complications based on the Clavien-Dindo (CD) classification, and hospital length of stay (LOS) were also recorded.

Results

11.9% (n=123) of the patients were at risk of malnutrition (MUST ≥ 1). Of this, 4.6% (n=48) were of high risk (MUST ≥ 2). Unadjusted predictors for high malnutrition risk include ASA ≥ 3 , higher EFS, higher CCI, polypharmacy (≥ 10 medications), poor effort tolerance (METS < 3), presence of malignancy, general surgery patients and lower hemoglobin. These patients had higher odds of CD grade ≥ 1 complications compared to those without risk (adjusted odds ratio, 2.30 [95% CI, 1.11-4.78]; $p=0.025$) and 22% longer hospital LOS (adjusted incidence rate ratio, 1.22 [95% CI, 1.00-1.49], $p=0.049$) after multivariate adjustment for sex, severity of surgery, comorbidities, frailty, presence of malignancy and anemia.

Conclusion

Preoperative malnutrition risk is prevalent among the elderly. Patients at high malnutrition risk have increased risk of postoperative complications and longer hospital LOS. Patients with high comorbidity burden and frailty should be screened for malnutrition so that nutritional optimization can be sought.

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