Can Charlson Comorbidity Index (CCI) and Clinical Frailty Scale (CFS) Assessment Predict Survival in Octogenarians with Colorectal Cancer

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Background

Elderly patients are a heterogeneous group, ranging from fit to frail, with varying disease burden, comorbidities and ability to tolerate cancer-directed treatment. Defining treatment strategies in octogenarians with colorectal cancer (CRC) is challenging due to the high risk of complications and the likelihood of death from other causes. The aim of this study was to evaluate whether CCI and CFS can predict survival in octogenarians with CRC.

Material and Methods

Patients aged 80 and over with CRC, seen at the Multidisciplinary tumor board at our center between January 2020 and December 2022 were evaluated in this study. CCI and CFS were calculated in all patients. Kaplan-Meier method was used to estimate the probability of 1-, 3- and 5-year survival rates (OS) regardless of treatment, and to compare OS estimates based on subjects' characteristics, CCI and CFS scores.

Results

We analysed 149 patients, median age 82 (range 80-91), with 53% of patients with stage IV CRC. Death was confirmed in 65 patients (44%) during follow-up. Following CFS scoring, patients were classified as frail (44%), pre-frail (45%) and robust (9%). The univariate 1-, 3- and 5-year survival rate estimates in frail group were 89%, 56% and 29%, and in robust/pre-frail group 92%, 85% and 64%. Median OS estimate in frail group was 13.24 months (5.35-21.13), and in robust/pre-frail 113.02 months (56.41-169.63), which was statistically significant, p<0.01.

According to CCI scale patients were divided in groups that scored 1-5 (13%), 6-7 (28%), 8-10 (31%) and more than 10 points (24%). In these CCI groups, median OS estimates were as follows: 59.5, NR, 40.4 and 8.28 months, respectively, which proved to be statistically significant (p<0.019). A binomial logistic regression was performed to ascertain the effects of ECOG performance status (PS), CFS and CCI on the likelihood that participants will survive 12 months. Of these three predictor variables, only PS was statistically significant in predicting 1-year survival in this model.

Conclusion

Geriatric assessments (CFS and CCI) were efficient in predicting survival in octogenarians with CRC, with potential implications for shaping the decision-making process for different treatment modalities.