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Effect of sarcopenia on clinical outcomes following digestive carcinoma surgery: A meta-analysis

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Background & Purpose: The effect of sarcopenia on clinical outcomes of digestive carcinoma surgery is still controversial. The aim of this study is to assess the effect of sarcopenia defined by the European Working Group on Sarcopenia in Older People (EWGSOP) Consensus or Asian Working Group for Sarcopenia (AWGS) Consensus on clinical outcomes in patients undergoing digestive carcinoma surgery.

Methods: Eligible studies were searched from PubMed, Web of Science, Embase and other databases from inception to April, 30, 2018. We conducted a meta-analysis to estimate the odd ratio for total complications, major complications, readmission, infection, survival condition after surgery and the mean difference for length of hospital stays, hospitalization expenditures in sarcopenia group versus non-sarcopenia group. Stratified analysis were conducted by tumor sites, assessment methods and follow-up time. Sensitivity analysis was used to test the robustness.

Results: We included 10 prospective cohort studies and 1 retrospective cohort study with the prevalence of sarcopenia ranging from 12% to 33%, involving 2419 patients. Our meta-analysis found that sarcopenia was associated with increased risk of total complications [OR=2.39;95% CI: 1.85-3.08; P<0.00001; I²=1%], major complications [OR=3.01;95%CI: 1.69-5.33; P=0.0002; I²=0%], readmission [OR=2.96; 95% CI: 1.80-4.89; P<0.0001; I²=0%], infection [OR=2.46; 95% CI: 1.51-4.03; P=0.0003; I²=47%], survival condition [OR=0.20; 95% CI: 0.10-0.37; P<0.0001; I²=2%], also affected the length of hospital stays [MD=4.61; 95% CI: 1.84-7.39; P=0.001; I²=65%] and hospitalization expenditures [MD=0.25; 95% CI: 0.04-0.46; P=0.02; I²=0%]. Subgroup analysis results show that sarcopenia still a risk factor across stratification by tumor sites, assessment measures and follow-up time. Sensitivity analysis suggested our results were stable.

Conclusion: Sarcopenia based on the definition of EWGSOP or AWGS was associated with the increased risk of total complications, major complications, readmission, infection, survival condition; it is also related to longer hospital stays and higher hospitalization expenditures.

Biography

Hongxia Hua has completed Postgraduate education from Nanjing Medical University. She holds a post of Vice Minister of University Graduate Student Council. She has written two articles about surgical nursing waiting to be published.

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