Comment on 'Hand Grip Strength-Based Cachexia Index as a Predictor of Cancer Cachexia and Prognosis Inpatients With Cancer’ by Xie et al.

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Comment on ‘Hand grip strength-based cachexia index as a predictor of cancer cachexia and prognosis in patients with cancer’ by Xie et al.

The study conducted by Xie et al.\(^1\) caught our attention, and we extend our gratitude for their valuable contribution. Measuring skeletal muscle index can be costly and tedious. Xie et al. proposed an alternative by using hand grip strength (HGS) to establish a new composite index, HGS-based cachexia index (CXI) (H-CXI), which is calculated as [HGS (kg)/height (m)\(^2\) × serum albumin (g/L)/neutrophil-to-lymphocyte ratio]. The H-CXI proved to be a rapid and accurate assessment tool, which can effectively evaluate the risk of cachexia and clinical outcome in cancer patients. The study revealed that H-CXI is independently associated with patient prognosis and is linked to age, pathological stage, systemic inflammation, and nutritional status. Low H-CXI was found to be an independent predictor of cachexia and prognosis in cancer patients. Moreover, H-CXI has shown to be a better prognosis evaluation tool for patients with the same pathological stage. In light of these findings, H-CXI is an economic and procedural advantage over the original CXI, is a comprehensive indicator, and is a multi-centre, prospective, large-sample study that provides reliable results. H-CXI has a reliable clinical effect and a broad clinical prospect in predicting prognosis and cancer cachexia.

It was found that the study analysed tumours of varying types with different pathological factors, potentially impacting the outcome. Additionally, the study lacked a prospective approach with rigorous inclusion criteria to evaluate the clinical applicability of H-CXI. Thus, a cohort study with registration number NCT01516944 was conducted to explore the clinical applicability of H-CXI as a predictor of cancer cachexia and prognosis among patients with locally advanced gastric cancer (LAGC). The study prospectively enrolled 290 LAGC patients who underwent direct radical surgical resection, of whom 111 (38.28%) had complete serologic and anthropometric data. The cohort primarily composed of males (62.16%) with a mean age of 58 years. Based on the optimal cut-off value for H-CXI from a previous study, 61 (54.95%) patients were categorized into the high H-CXI group and the remaining 50 (45.05%) into the low H-CXI group. During the follow-up period with a median duration of 64.9 months, 21 (18.92%) patients developed cancer cachexia, and patients in the high H-CXI group had a significantly lower risk of developing cancer cachexia than those in the low H-CXI group (11.48% vs. 28.00%, \(P = 0.027\)). Furthermore, patients in the high H-CXI group showed significantly better overall survival (OS) and disease-free survival (DFS) rates than those in the low H-CXI group (OS: 59.02% vs. 36.00%, \(P = 0.0043\); DFS: 54.10% vs. 26.00%, \(P = 0.0024\)). Moreover, subgroup analysis revealed better 5-year OS and DFS rates for patients with high H-CXI at all pathological stages. Thus, the study found that H-CXI effectively predicted the prognosis and the risk of developing cancer cachexia in patients with LAGC, which was consistent with previous findings.

The occurrence of cachexia in cancer patients is prevalent and has a negative impact on their quality of life and treatment outcomes.\(^2,3\) Hence, it is crucial to identify biomarkers for timely detection and evaluation of patients at high risk of developing cachexia. Several studies have demonstrated the potential efficacy of CXI as a biomarker to predict cancer patients’ prognosis.\(^4,5\) However, the practical application of CXI is limited by the associated cost and complexity of skeletal muscle index testing procedures. Sadly, recent research on developing CXI has been at a standstill. Fortunately, H-CXI is a useful indicator that predicts cancer cachexia and prognosis effectively. Besides being convenient and quick, it provides an efficient complement to the stratification of TNM stage prognosis.

We extend our gratitude to Xie et al.\(^1\) for their valuable contribution and recognize the crucial implications of their discoveries for related domains. The H-CXI method offers a comprehensive evaluation of the muscle, nutritional, and inflammatory status in LAGC patients suffering from cachexia. This method serves as a significant point of reference for the prognosis assessment and individualized treatment of patients. Our cohort study of LAGC patients reveals that H-CXI...
has a high level of accuracy in predicting and assessing the cachexia and prognostication of LAGC patients. H-CXI has the potential to enhance clinical evaluations and treatment strategies for LAGC patients, ultimately benefiting patient survival (Figure 1).

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