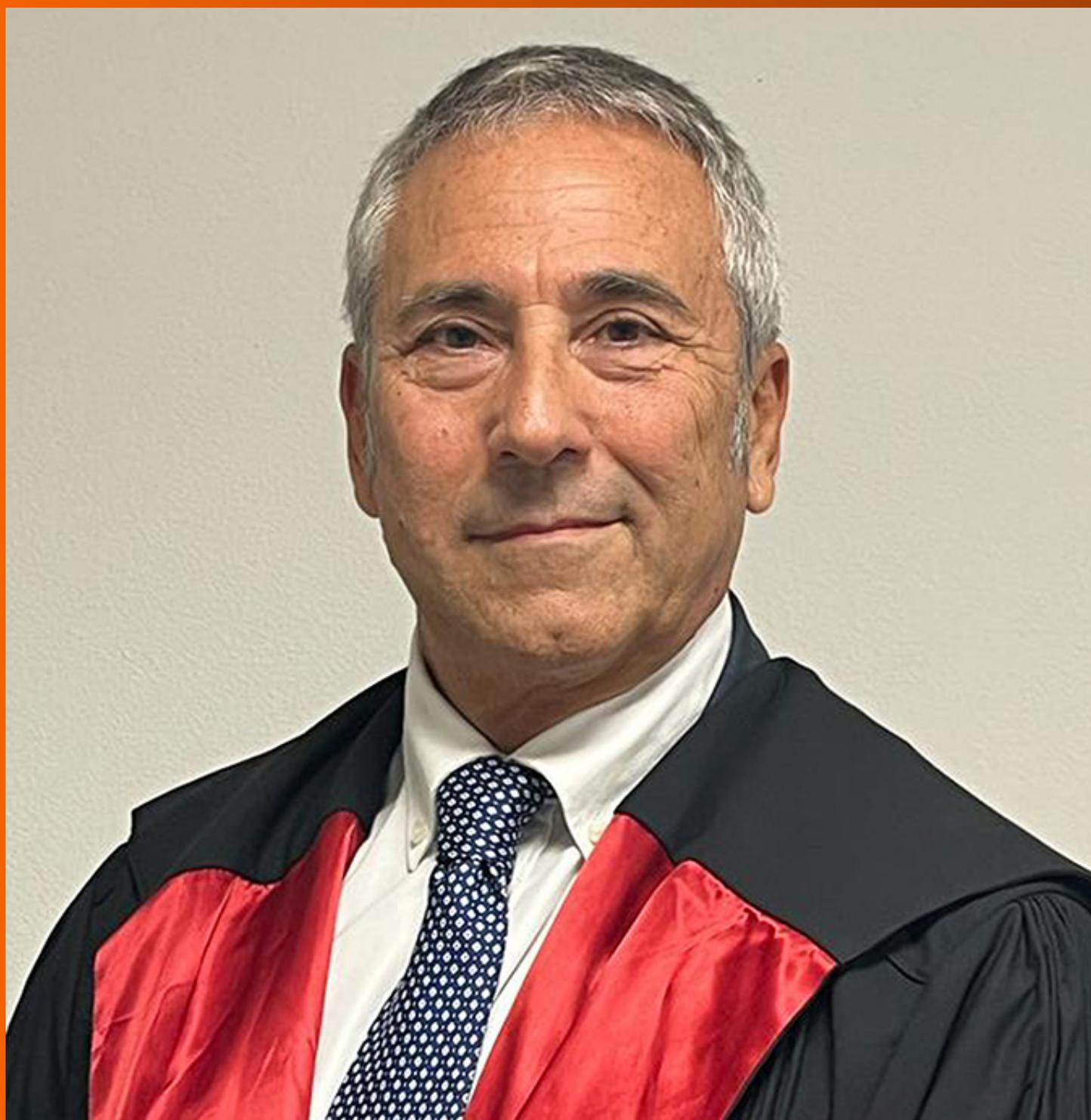


World Journal of *Gastrointestinal Surgery*

World J Gastrointest Surg 2024 January 27; 16(1): 1-259



EDITORIAL

- 1 Novel prognostic factors after radical resection of hepatocellular carcinoma: Updating an old issue
Bencini L
- 6 Prospects in the application of ultrasensitive chromosomal aneuploidy detection in precancerous lesions of gastric cancer
Qian ST, Xie FF, Zhao HY, Liu QS, Cai DL

MINIREVIEWS

- 13 Prognostic value of ultrasound in early arterial complications post liver transplant
Zhao NB, Chen Y, Xia R, Tang JB, Zhao D

ORIGINAL ARTICLE**Case Control Study**

- 21 Added value of ratio of cross diameters of the appendix in ultrasound diagnosis of acute appendicitis
Gu FW, Wu SZ

Retrospective Cohort Study

- 29 Oncological features and prognosis of colorectal cancer in human immunodeficiency virus-positive patients: A retrospective study
Yang FY, He F, Chen DF, Tang CL, Woraiikat S, Li Y, Qian K

Retrospective Study

- 40 Laparoscopic *vs* open surgery for gastric cancer: Assessing time, recovery, complications, and markers
Lu YY, Li YX, He M, Wang YL
- 49 Single-incision laparoscopic transabdominal preperitoneal repair in the treatment of adult female patients with inguinal hernia
Zhu XJ, Jiao JY, Xue HM, Chen P, Qin CF, Wang P
- 59 Computerized tomography-guided therapeutic percutaneous puncture catheter drainage-combined with somatostatin for severe acute pancreatitis: An analysis of efficacy and safety
Zheng XL, Li WL, Lin YP, Huang TL
- 67 Impact of open hepatectomy on postoperative bile leakage in patients with biliary tract cancer
Wu G, Li WY, Gong YX, Lin F, Sun C
- 76 Clinical observation of gastrointestinal function recovery in patients after hepatobiliary surgery
Zeng HJ, Liu JJ, Yang YC

- 85 Predictive value of machine learning models for lymph node metastasis in gastric cancer: A two-center study
Lu T, Lu M, Wu D, Ding YY, Liu HN, Li TT, Song DQ
- 95 Post-operative morbidity after neoadjuvant chemotherapy and resection for gallbladder cancer: A national surgical quality improvement program analysis
Kim M, Stroever S, Aploks K, Ostapenko A, Dong XD, Seshadri R
- 103 Risk factors for recurrence of common bile duct stones after surgical treatment and effect of ursodeoxycholic acid intervention
Yuan WH, Zhang Z, Pan Q, Mao BN, Yuan T
- 113 Clinical efficacy of modified Kamikawa anastomosis in patients with laparoscopic proximal gastrectomy
Wu CY, Lin JA, Ye K
- 124 Clinical effect of laparoscopic radical resection of colorectal cancer based on propensity score matching
Liu Y, Wang XX, Li YL, He WT, Li H, Chen H
- 134 Different timing for abdominal paracentesis catheter placement and drainage in severe acute pancreatitis complicated by intra-abdominal fluid accumulation
Chen R, Chen HQ, Li RD, Lu HM
- 143 Comparison of different preoperative objective nutritional indices for evaluating 30-d mortality and complications after liver transplantation
Li C, Chen HX, Lai YH
- 155 Predictive value of NLR, Fib4, and APRI in the occurrence of liver failure after hepatectomy in patients with hepatocellular carcinoma
Kuang TZ, Xiao M, Liu YF
- 166 Practical effect of different teaching modes in teaching gastrointestinal surgery nursing
Rong XJ, Ning Z
- Observational Study**
- 173 Predictive factors and model validation of post-colon polyp surgery *Helicobacter pylori* infection
Zhang ZS
- Randomized Controlled Trial**
- 186 Micro-power negative pressure wound technique reduces risk of incision infection following loop ileostomy closure
Xu DY, Bai BJ, Shan L, Wei HY, Lin DF, Wang Y, Wang D
- 196 Paravertebral block's effect on analgesia and inflammation in advanced gastric cancer patients undergoing transarterial chemoembolization and microwave ablation
Xiong YF, Wei BZ, Wang YF, Li XF, Liu C

META-ANALYSIS

- 205 Unraveling the efficacy network: A network meta-analysis of adjuvant external beam radiation therapy methods after hepatectomy
Yang GY, He ZW, Tang YC, Yuan F, Cao MB, Ren YP, Li YX, Su XR, Yao ZC, Deng MH
- 215 Estimation of Physiologic Ability and Surgical Stress scoring system for predicting complications following abdominal surgery: A meta-analysis spanning 2004 to 2022
Pang TS, Cao LP
- 228 Role of Oncostatin M in the prognosis of inflammatory bowel disease: A meta-analysis
Yang Y, Fu KZ, Pan G

CASE REPORT

- 239 Endoscopic treatment of extreme esophageal stenosis complicated with esophagotracheal fistula: A case report
Fang JH, Li WM, He CH, Wu JL, Guo Y, Lai ZC, Li GD
- 248 Intestinal tuberculosis with small bowel stricture and hemorrhage as the predominant manifestation: Three case reports
Huang G, Wu KK, Li XN, Kuai JH, Zhang AJ

LETTER TO THE EDITOR

- 257 Sarcopenia in cirrhotic patients: Does frailty matter while waiting for a liver transplant?
Li XJ, He K

ABOUT COVER

Editorial Board Member of *World Journal of Gastrointestinal Surgery*, Renato Pietroletti, PhD, Associate Professor, Professor, Department of Applied Clinical and Biotechnological Sciences, University of L'Aquila, L'Aquila 67100, AQ, Italy. renato.pietroletti@univaq.it

AIMS AND SCOPE

The primary aim of *World Journal of Gastrointestinal Surgery* (*WJGS, World J Gastrointest Surg*) is to provide scholars and readers from various fields of gastrointestinal surgery with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WJGS mainly publishes articles reporting research results and findings obtained in the field of gastrointestinal surgery and covering a wide range of topics including biliary tract surgical procedures, biliopancreatic diversion, colectomy, esophagectomy, esophagostomy, pancreas transplantation, and pancreatectomy, *etc.*

INDEXING/ABSTRACTING

The *WJGS* is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Current Contents/Clinical Medicine, Journal Citation Reports/Science Edition, PubMed, PubMed Central, Reference Citation Analysis, China Science and Technology Journal Database, and Superstar Journals Database. The 2023 Edition of Journal Citation Reports® cites the 2022 impact factor (IF) for *WJGS* as 2.0; IF without journal self cites: 1.9; 5-year IF: 2.2; Journal Citation Indicator: 0.52; Ranking: 113 among 212 journals in surgery; Quartile category: Q3; Ranking: 81 among 93 journals in gastroenterology and hepatology; and Quartile category: Q4.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Zi-Hang Xu, Production Department Director: Xiang Li, Editorial Office Director: Jia-Ru Fan.

NAME OF JOURNAL

World Journal of Gastrointestinal Surgery

ISSN

ISSN 1948-9366 (online)

LAUNCH DATE

November 30, 2009

FREQUENCY

Monthly

EDITORS-IN-CHIEF

Peter Schemmer

POLICY OF CO-AUTHORS

<https://www.wjgnet.com/1948-9366/editorialboard.htm>

PUBLICATION DATE

January 27, 2024

COPYRIGHT

© 2024 Baishideng Publishing Group Inc

INSTRUCTIONS TO AUTHORS

<https://www.wjgnet.com/bpg/gerinfo/204>

GUIDELINES FOR ETHICS DOCUMENTS

<https://www.wjgnet.com/bpg/GerInfo/287>

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH

<https://www.wjgnet.com/bpg/gerinfo/240>

PUBLICATION ETHICS

<https://www.wjgnet.com/bpg/GerInfo/288>

PUBLICATION MISCONDUCT

<https://www.wjgnet.com/bpg/gerinfo/208>

<https://www.wjgnet.com/bpg/GerInfo/310>

ARTICLE PROCESSING CHARGE

<https://www.wjgnet.com/bpg/gerinfo/242>

STEPS FOR SUBMITTING MANUSCRIPTS

<https://www.wjgnet.com/bpg/GerInfo/239>

ONLINE SUBMISSION

<https://www.f6publishing.com>



Sarcopenia in cirrhotic patients: Does frailty matter while waiting for a liver transplant?

Xing-Jie Li, Kang He

Specialty type: Gastroenterology and hepatology

Provenance and peer review: Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): 0
Grade C (Good): C
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Sholkamy A, Egypt

Received: November 10, 2023

Peer-review started: November 10, 2023

First decision: December 4, 2023

Revised: December 7, 2023

Accepted: December 12, 2023

Article in press: December 12, 2023

Published online: January 27, 2024



Xing-Jie Li, Division of Transplant Surgery, Mayo Clinic Arizona, Phoenix, AZ 85054, United States

Xing-Jie Li, Kang He, Department of Liver Surgery, Renji Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200127, China

Corresponding author: Kang He, MD, Doctor, Department of Liver Surgery, Renji Hospital, Shanghai Jiao Tong University School of Medicine, No. 160 Pujian Road, Shanghai 200127, China. he kang929@163.com

Abstract

Sarcopenia reflects patient frailty and should be routinely assessed due to its high prevalence in cirrhotic patients awaiting liver transplants. Pre-transplant nutritional optimization should be tailored for patients with a definitive diagnosis of sarcopenia, therefore improving functional status at transplant and reducing post-transplant mortality. Hepatologists and transplant surgeons should have raised awareness regarding sarcopenia and the reflected frailty that hinder posttransplant outcomes. The policymakers should also take into account when modifying the organ allocation model that sarcopenia or frailty might become a decisive factor in allocating organs for cirrhotic patients, in order to ensure post-transplant survival and quality of life.

Key Words: Sarcopenia; Liver transplant; Organ allocation policy; Cirrhosis; Frailty

©The Author(s) 2024. Published by Baishideng Publishing Group Inc. All rights reserved.

Core Tip: Sarcopenia is an independent risk factor for mortality in cirrhotic patients waiting for a liver transplant. It is important to recognize sarcopenia at pre-transplant evaluation, provide supportive management and optimize patient conditions prior to the transplant. Also, the future organ allocation policymakers should take into account that cirrhotic patients with sarcopenia carry a potentially higher mortality than reflected by the current model for end-stage liver disease-Na model and therefore in a more urgent need of a liver transplant.

Citation: Li XJ, He K. Sarcopenia in cirrhotic patients: Does frailty matter while waiting for a liver transplant? *World J Gastrointest Surg* 2024; 16(1): 257-259

URL: <https://www.wjgnet.com/1948-9366/full/v16/i1/257.htm>

DOI: <https://dx.doi.org/10.4240/wjgs.v16.i1.257>

TO THE EDITOR

We read with great interest an original research paper by Yin *et al*[1], who performed a retrospective case-control study on patients who received a transjugular intrahepatic portosystemic shunt (TIPS) procedure between January 2020 and June 2021 at their center. It was evidenced that myosteatorsis and sarcopenia were associated with a high incidence of overt hepatic encephalopathy in patients after the TIPS procedure[1].

We appreciate and agree with the authors' findings and would like to further investigate into the effects of sarcopenia, a reflection of patient frailty, on cirrhotic patients listed for a liver transplant. By definition, sarcopenia refers to a decline in both quantity and quality of the skeletal muscle, presented clinically with corresponding decline in muscle strength, therefore the ability to carry out physical activity[2]. It is associated with an increased likelihood of adverse outcomes. In cirrhotic patients, the prevalence of sarcopenia range between 30% and 70%, with a higher proportion in males, low body mass index patients and patients with alcoholic liver diseases[3]. The pathogenesis is not clear, but it was postulated that most cirrhotic patients had been suffering from chronic decompensated end-stage liver disease with an altered catabolism, direct myotoxicity from systemic ammonia, poor nutrition status and long-term physical inactivity[4].

A meta-analysis from Tantai *et al*[5] reported an approximately 2-fold higher mortality among all subgroups of cirrhotic patients with sarcopenia, comparing to those who don't[5]. To be noticed, the results also applied to patients with low model for end-stage liver disease (MELD)-Na score, which is a predictor of three-month mortality of cirrhotic patients and the current modality of prioritizing liver allocation. It is calculated based on the parameters of serum creatinine, bilirubin, international normalized ratio and serum sodium, ranging from 6 to 40. However, sarcopenia, as an independent risk factor for mortality in post-transplant patients, has not been integrated into the MELD-Na score, nor has it been accepted as an exception score. In the study by Montano-Loza *et al*[6], a modified MELD-sarcopenia score was proposed[6]. The patients with lower MELD scores particularly benefit from the novel model because they were traditionally deemed of low risk. It requires multicenter study with higher case number to validate a reliable and predictive model and implicate it in the clinical setting, but we do believe sarcopenia should be considered during listing and organ allocation, to prioritize patients who have poor performance status not properly reflected by MELD-Na score.

Therefore, it is of vital importance to recognize sarcopenia at listing and during pre-transplant surveillance. The gold standard for sarcopenia diagnosis is psoas muscle cross-sectional area normalized for stature (cm^2/m^2) at the level of L3 on abdominal computed tomography (CT) scan, also known as the L3 skeletal muscle index, although different cutoffs have been applied in previous studies[3,4]. As abdominal CT scan is routinely performed in cirrhotic patients at transplant evaluation for either cancer screening or anatomical mapping, it enables a qualitative measurement and a definitive diagnosis of sarcopenia concurrently at no additional costs. Once the diagnosis is made, pre-transplant management should be advocated for to optimize those cirrhotic patients for an upcoming transplant, including nutrition clinic visits and physical therapist appointments for individualized counseling if available[7].

As mentioned above, sarcopenia is a reflection of patient frailty. While it may be logistically unrealistic to repeat an abdominal CT scan at every follow-up visit with no other clinical indications, there are various well-developed clinical assessment tools for frailty. The liver frailty index (LFI) is an objective measurement specifically developed for cirrhotic patients, which involves three easily assessed aspects of grip strength, timed chair stands, and balance testing. With a well-established cutoff, LFI significantly improves mortality prediction in cirrhotic patients compared to subjective assessment solely (0.74 *vs* 0.68; $P = 0.02$) and is further implicated with great reproducibility in noncirrhotic populations [8,9].

We would like to emphasize that sarcopenia and frailty are both dynamic processes rather than a static status, in which continuous interval monitoring, documentation, and management could potentially optimize the overall condition of a cirrhotic patient prior to receiving an organ[10].

FOOTNOTES

Author contributions: Li XJ wrote the manuscript; He K designed the study and revised the manuscript.

Conflict-of-interest statement: All the authors report no relevant conflicts of interest for this article.

Open-Access: This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <https://creativecommons.org/licenses/by-nc/4.0/>

Country/Territory of origin: China

ORCID number: Kang He 0000-0003-4671-1337.

S-Editor: Li L

L-Editor: A

P-Editor: Li L

REFERENCES

- 1 **Yin L**, Chu SL, Lv WF, Zhou CZ, Liu KC, Zhu YJ, Zhang WY, Wang CX, Zhang YH, Lu D, Cheng DL. Contributory roles of sarcopenia and myosteatosis in development of overt hepatic encephalopathy and mortality after transjugular intrahepatic portosystemic shunt. *World J Gastroenterol* 2023; **29**: 2875-2887 [PMID: 37274064 DOI: 10.3748/wjg.v29.i18.2875]
- 2 **Polyzos SA**, Mantzoros CS. Sarcopenia: still in relative definition-penia and severe treatment-penia. *Metabolism* 2024; **150**: 155717 [PMID: 37923006 DOI: 10.1016/j.metabol.2023.155717]
- 3 **Kim HY**, Jang JW. Sarcopenia in the prognosis of cirrhosis: Going beyond the MELD score. *World J Gastroenterol* 2015; **21**: 7637-7647 [PMID: 26167066 DOI: 10.3748/wjg.v21.i25.7637]
- 4 **Lai JC**, Tandon P, Bernal W, Tapper EB, Ekong U, Dasarathy S, Carey EJ. Malnutrition, Frailty, and Sarcopenia in Patients With Cirrhosis: 2021 Practice Guidance by the American Association for the Study of Liver Diseases. *Hepatology* 2021; **74**: 1611-1644 [PMID: 34233031 DOI: 10.1002/hep.32049]
- 5 **Tantai X**, Liu Y, Yeo YH, Praktijnjo M, Mauro E, Hamaguchi Y, Engelmann C, Zhang P, Jeong JY, van Vugt JLA, Xiao H, Deng H, Gao X, Ye Q, Zhang J, Yang L, Cai Y, Liu N, Li Z, Han T, Kaido T, Sohn JH, Strassburg C, Berg T, Trebicka J, Hsu YC, IJzermans JNM, Wang J, Su GL, Ji F, Nguyen MH. Effect of sarcopenia on survival in patients with cirrhosis: A meta-analysis. *J Hepatol* 2022; **76**: 588-599 [PMID: 34785325 DOI: 10.1016/j.jhep.2021.11.006]
- 6 **Montano-Loza AJ**, Duarte-Rojo A, Meza-Junco J, Baracos VE, Sawyer MB, Pang JX, Beaumont C, Esfandiari N, Myers RP. Inclusion of Sarcopenia Within MELD (MELD-Sarcopenia) and the Prediction of Mortality in Patients With Cirrhosis. *Clin Transl Gastroenterol* 2015; **6**: e102 [PMID: 26181291 DOI: 10.1038/ctg.2015.31]
- 7 **Mazurak VC**, Tandon P, Montano-Loza AJ. Nutrition and the transplant candidate. *Liver Transpl* 2017; **23**: 1451-1464 [PMID: 29072825 DOI: 10.1002/lt.24848]
- 8 **Wang CW**, Lebsack A, Chau S, Lai JC. The Range and Reproducibility of the Liver Frailty Index. *Liver Transpl* 2019; **25**: 841-847 [PMID: 30884128 DOI: 10.1002/lt.25449]
- 9 **Lai JC**, Covinsky KE, McCulloch CE, Feng S. The Liver Frailty Index Improves Mortality Prediction of the Subjective Clinician Assessment in Patients With Cirrhosis. *Am J Gastroenterol* 2018; **113**: 235-242 [PMID: 29231189 DOI: 10.1038/ajg.2017.443]
- 10 **He K**, Xia Q. Should sarcopenia be an additional factor enough to affect liver transplant decision-making? *Hepatobiliary Surg Nutr* 2021; **10**: 884-886 [PMID: 35004962 DOI: 10.21037/hbsn-2021-19]



Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA
Telephone: +1-925-3991568
E-mail: office@baishideng.com
Help Desk: <https://www.f6publishing.com/helpdesk>
<https://www.wjgnet.com>

