预后营养指数对癌症患者预后的临床意义

Title:	The clinical significance of PNI in the prognosis of cancer patients

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摘要: 营养与免疫不仅能够影响肿瘤细胞的发生、侵袭，而且对治疗方案的选择及患者的预后评估具有重要的临床意义。近些年来，许多临床研究结果表明预后营养指数(prognostic nutritional index，PNI)对于评估癌症患者的生活质量及生存期具有重要的临床意义，而且PNI在肺癌、食管癌、胃癌、结直肠癌、卵巢癌等恶性肿瘤中预后评估价值已经得到临床研究证明。本文就PNI评估癌症患者预后的临床意义作一综述。

Abstract: Nutrition and immune not only affect the occurrence and invasion of tumor cells,but also have important clinical significance for the choice of treatment options and the prognosis of cancer patients.In recent years,many clinical study have demonstrated that prognostic nutritional index (PNI) have important clinical value for evaluating the prognostic life quality and survive of cancer patients.The value of PNI in lung cancer,esophageal cancer,gastric cancer,colorectal cancer,ovarian cancer have been proven.So the present article reviews the clinical significance of PNI in assessing the prognosis of cancer patients.

参考文献/REFERENCES

[1] Chen W,Zheng R,Baade PD,et al.Cancer statistics in China,2015 [J] .CA Cancer J Clin,2016,66(2):115-132.

[2] Mantovani A,Allavena P,Sica A,et al.Cancer-related inflammation [J] .Nature,2008,454(7203):436-444.

[3] Fu H,Zheng J,Cai J, et al.Systemic immune-inflammation index (SII) is useful to predict survival outcomes in patients after liver transplantation for hepatocellular carcinoma within hangzhou criteria [J] .Cell Physiol Biochem, 2018,47(1):293-301.

[4] Li P, Liu X, Liu HL, et al.The cancer-associated inflammatory cytokine IL-6 plays roles in tumor microenvironment [J] .Modern Oncology,2017,25(19):3174-3177. [李萍,刘馨,刘洪璐,等.癌相关性炎症因子IL-6在肿瘤微环境中的作用研究进展 [J] .现代肿瘤医学,2017,25(19):3174-3177.]

[5] Wang HX,Wang CC,Yang W,et al.Prognostic value of preoperative prognostic nutritional index in stage III gastric cancer after curative resection:A retrospective cohort study [J] .Asia Pac J Clin Nutr,2018,27(3):540-545.

[6] Okada S,Shimada J,Teramukai S,et al.Risk stratification according to the prognostic nutritional index for predicting postoperative complications after lung cancer surgery [J] .Annals of Surgical Oncology,2018,25(5):1254-1261.

[7] Buzby GP,Mullen JL,Matthews DC,et al.Prognostic nutritional index in gastrointestinal surgery [J] .American Journal of Surgery,1980,139(1):160-167.

[8] Mcmillan DC.Systemic inflammation,nutritional status and survival in patients with cancer [J] .Curr Opin Clin Nutr Metab Care,2009,12(3):223-226.

[9] Li C,Ying Y,Zhu L,et al.Systemic immune-inflammation index as a useful prognostic indicator predicts survival in patients with advanced gastric cancer treated with neoadjuvant chemotherapy [J] .Cancer Management & Research,2017,9:849-867.

[10] Raycoquard I,Cropet C,Van GM,et al.Lymphopenia as a prognostic factor for overall survival in advanced carcinomas,sarcomas,and lymphomas [J] .Cancer Research,2009,69(13):5383-5391.

[11] Seaton K.Albumin concentration controls cancer [J] .Journal of the National Medical Association,2001,93(93):490-493.

[12] Zhou MG,Wang XF,Hu JP,et al.Geographical distribution of cancer mortality in China,2004-

2005［J］.Chinese Journal of Cpreventive Medicine,2010,44(4):303-308.［周脉耕,王晓风,胡建平,等.2004-2005年中国主要恶性肿瘤死亡的地理分布特点［J］.中华预防医学杂志,2010,44(4):303-308.］

［13］Hirahara N,Tajima Y,Fujii Y,et al.Preoperative prognostic nutritional index predicts long-term surgical outcomes in patients with esophageal squamous cell carcinoma［J］.World Journal of Surgery,2018,42（7）：2199-2208.

［14］Nakatani M,Migita K,Matsumoto S,et al.Prognostic significance of the prognostic nutritional index in esophageal cancer patients undergoing neoadjuvant chemotherapy［J］.Diseases of the Esophagus,2017,30(8):1-7.

［15］Feng JF,Chen QX.Significance of the prognostic nutritional index in patients with esophageal squamous cell carcinoma［J］.Therapeutics & Clinical Risk Management,2014,10(default):1-7.

［16］Wang B，Yao YH，Wang JS，et al.Significance of inflammatory index in patients before radical operation for early non-small cell lung cancer［J］.Modern Oncology,2018,26(8):1198-1202.［王勃,姚元虎,王建设,等.早期非小细胞肺癌患者术前炎性指标的临床意义［J］.现代肿瘤医学,2018,26(08):1198-1202.］

［17］Peng XD，Song L.Efficacy and security of chronic-chemotherapy in Chinese patients with non-small cell lung cancer:A Meta-analysis［J］.Modern Oncology,2018,26(03):364-370.［彭小东,宋来.中国非小细胞肺癌患者时辰化疗疗效及安全性的Meta分析［J］.现代肿瘤医学,2018,26(03):364-370.］

［18］Sheng J,Yang YP,Ma YX,et al.Low prognostic nutritional index correlates with worse survival in patients with advanced NSCLC following EGFR-TKIs［J］.Plos One,2016,11(1):e0147226.

［19］Minami S,Ogata Y,Ihara S,et al.Pretreatment Glasgow prognostic score and prognostic nutritional index predict overall survival of patients with advanced small cell lung cancer［J］.Lung Cancer,2017,8:249-257.

［20］Okada S,Shimada J,Kato D,et al.Clinical significance of prognostic nutritional index after surgical treatment in lung cancer［J］.Annals of Thoracic Surgery,2017,104(1):296-302.

［21］Yang Y,Gao P,Song Y,et al.The prognostic nutritional index is a predictive indicator of prognosis and postoperative complications in gastric cancer:A meta-analysis［J］.Eur J Surg Oncol,2016,42(8):1176-1182.

［22］Saito H,Kono Y,Murakami Y,et al.Influence of prognostic nutritional index and tumor markers on survival in gastric cancer surgery patients［J］.Langenbecks Arch Surg,2017,402(3):501-507.

［23］Nie R,Yuan S,Chen S,et al.Prognostic nutritional index is an independent prognostic factor for gastric cancer patients with peritoneal dissemination［J］.Chinese Journal of Cancer Research,2016,28(6):570-578.

［24］Liu W，Xue YL，Nie L.Analysis of postoperative infection and immune function in patients with rectal cancer treated by laparoscopy and laparotomy surgery［J］.Modern Oncology,2018,26(04):560-563.［刘伟,薛迎利,聂磊.腹腔镜与传统开腹术式对直肠癌患者术后感染和免疫功能影响分析［J］.现代肿瘤医学,2018,26(04):560-563.］

［25］Cao X,Zhao G,Yu T,et al.Preoperative prognostic nutritional index correlates with severe complications and poor survival in patients with colorectal cancer undergoing curative laparoscopic surgery:A retrospective study in a single Chinese institution［J］.Nutrition & Cancer-an International Journal,2017,69(3):454-463.

［26］Mohri Y,Inoue Y,Tanaka K,et al.Prognostic nutritional index predicts postoperative outcome in colorectal cancer［J］.World Journal of Surgery,2013,37(11):2688-2692.

［27］Tokunaga R,Sakamoto Y,Nakagawa S,et al.Prognostic nutritional index predicts severe complications,recurrence,and poor prognosis in patients with colorectal cancer undergoing primary tumor resection［J］.Diseases of the Colon & Rectum,2015,58(11):1048-1057.

［28］Liu Y，Du C，Liu WC.New progress in ovarian cancer treatment［J］.Modern Oncology,2015,23(04):553-556.［刘云,杜成,刘文超.卵巢癌治疗新进展［J］.现代肿瘤医学,2015,23(04):553-556.］

［29］Zhang W,Ye B,Liang W,et al.Preoperative prognostic nutritional index is a powerful predictor of prognosis in patients with stage III ovarian cancer［J］.Scientific Reports,2017,7(1):9548.

［30］Yi M,Li S,Qin Y,et al.Prognostic significance of preoperative prognostic nutritional index in epithelial ovarian cancer patients treated with platinum-based chemotherapy［J］.Oncol Res Treat,2016,39(11):712-719.