

World Journal of *Gastroenterology*

World J Gastroenterol 2017 October 14; 23(38): 6923-7058



EDITORIAL

- 6923 Evolving role of FDG-PET/CT in prognostic evaluation of resectable gastric cancer

De Raffele E, Mirarchi M, Cuicchi D, Lecce F, Cola B

- 6927 Staging chronic pancreatitis with exocrine function tests: Are we better?

Sperti C, Moletta L

MINIREVIEWS

- 6931 How to perform gastrointestinal ultrasound: Anatomy and normal findings

Atkinson NSS, Bryant RV, Dong Y, Maaser C, Kucharzik T, Maconi G, Asthana AK, Blaivas M, Goudie A, Gilja OH, Nuernberg D, Schreiber-Dietrich D, Dietrich CF

- 6942 Dysphagia: Thinking outside the box

Philpott H, Garg M, Tomic D, Balasubramanian S, Sweis R

- 6952 Role of endoscopic ultrasound in idiopathic pancreatitis

Somani P, Sunkara T, Sharma M

ORIGINAL ARTICLE

Basic Study

- 6962 Delayed and short course of rapamycin prevents organ rejection after allogeneic liver transplantation in rats

Hamdani S, Thiolat A, Naserian S, Grondin C, Moutereau S, Hulin A, Calderaro J, Grimbert P, Cohen JL, Azoulay D, Pilon C

- 6973 Adipose-derived stromal cells resemble bone marrow stromal cells in hepatocyte differentiation potential *in vitro* and *in vivo*

Xu LJ, Wang SF, Wang DQ, Ma LJ, Chen Z, Chen QQ, Wang J, Yan L

- 6983 Fecal microbiota transplantation prevents hepatic encephalopathy in rats with carbon tetrachloride-induced acute hepatic dysfunction

Wang WW, Zhang Y, Huang XB, You N, Zheng L, Li J

- 6995 Mitofusin-2 mediated mitochondrial Ca^{2+} uptake 1/2 induced liver injury in rat remote ischemic preconditioning liver transplantation and alpha mouse liver-12 hypoxia cell line models

Liang RP, Jia JJ, Li JH, He N, Zhou YF, Jiang L, Bai T, Xie HY, Zhou L, Sun YL

- 7009** Expression of annexin II in gastric carcinoma and its role in gastric cancer metastasis

Han F, Shrestha S, Huang H, Lv HY, Nie C, Lin L, Lu ML

Retrospective Study

- 7016** Risk factors for postoperative recurrence after primary bowel resection in patients with Crohn's disease

Yang KM, Yu CS, Lee JL, Kim CW, Yoon YS, Park IJ, Lim SB, Park SH, Ye BD, Yang SK, Kim JC

- 7025** Trends and outcomes of pancreaticoduodenectomy for periampullary tumors: A 25-year single-center study of 1000 consecutive cases

El Nakeeb A, Askar W, Atef E, Hanafy EE, Sultan AM, Salah T, Shehta A, Sorogy ME, Hamdy E, Hemly ME, El-Geidi AA, Kandil T, El Shobari M, Allah TA, Fouad A, Zeid MA, El Eneen AA, El-Hak NG, El Ebidy G, Fathy O, Sultan A, Wahab MA

Prospective Study

- 7037** Testing for hepatitis B virus alone does not increase vaccine coverage in non-immunized persons

Boyd A, Bottero J, Carrat F, Gozlan J, Rougier H, Girard PM, Lacombe K

CASE REPORT

- 7047** Gastric adenocarcinoma of fundic gland type spreading to heterotopic gastric glands

Manabe S, Mukaisho K, Yasuoka T, Usui F, Matsuyama T, Hirata I, Boku Y, Takahashi S

- 7054** High-grade myofibroblastic sarcoma in the liver: A case report

Wen J, Zhao W, Li C, Shen JY, Wen TF

ABOUT COVER

Editorial board member of *World Journal of Gastroenterology*, Jorg Kleeff, MD, Professor, Department of Visceral, Vascular and Endocrine Surgery, University Hospital Halle (Saale), Halle (Saale) 06120, Germany

AIMS AND SCOPE

World Journal of Gastroenterology (*World J Gastroenterol*, *WJG*, print ISSN 1007-9327, online ISSN 2219-2840, DOI: 10.3748) is a peer-reviewed open access journal. *WJG* was established on October 1, 1995. It is published weekly on the 7th, 14th, 21st, and 28th each month. The *WJG* Editorial Board consists of 1375 experts in gastroenterology and hepatology from 68 countries.

The primary task of *WJG* is to rapidly publish high-quality original articles, reviews, and commentaries in the fields of gastroenterology, hepatology, gastrointestinal endoscopy, gastrointestinal surgery, hepatobiliary surgery, gastrointestinal oncology, gastrointestinal radiation oncology, gastrointestinal imaging, gastrointestinal interventional therapy, gastrointestinal infectious diseases, gastrointestinal pharmacology, gastrointestinal pathophysiology, gastrointestinal pathology, evidence-based medicine in gastroenterology, pancreatology, gastrointestinal laboratory medicine, gastrointestinal molecular biology, gastrointestinal immunology, gastrointestinal microbiology, gastrointestinal genetics, gastrointestinal translational medicine, gastrointestinal diagnostics, and gastrointestinal therapeutics. *WJG* is dedicated to become an influential and prestigious journal in gastroenterology and hepatology, to promote the development of above disciplines, and to improve the diagnostic and therapeutic skill and expertise of clinicians.

INDEXING/ABSTRACTING

World Journal of Gastroenterology (*WJG*) is now indexed in Current Contents[®]/Clinical Medicine, Science Citation Index Expanded (also known as SciSearch[®]), Journal Citation Reports[®], Index Medicus, MEDLINE, PubMed, PubMed Central and Directory of Open Access Journals. The 2017 edition of Journal Citation Reports[®] cites the 2016 impact factor for *WJG* as 3.365 (5-year impact factor: 3.176), ranking *WJG* as 29th among 79 journals in gastroenterology and hepatology (quartile in category Q2).

FLYLEAF

I-IX Editorial Board

EDITORS FOR THIS ISSUE

Responsible Assistant Editor: *Xiang Li*
Responsible Electronic Editor: *Yu jie Ma*
Proofing Editor-in-Chief: *Lian-Sheng Ma*

Responsible Science Editor: *Ke Chen*
Proofing Editorial Office Director: *Jin-Lei Wang*

NAME OF JOURNAL
World Journal of Gastroenterology

ISSN
 ISSN 1007-9327 (print)
 ISSN 2219-2840 (online)

LAUNCH DATE
 October 1, 1995

FREQUENCY
 Weekly

EDITORS-IN-CHIEF
Damian Garcia-Olmo, MD, PhD, Doctor, Professor, Surgeon, Department of Surgery, Universidad Autonoma de Madrid; Department of General Surgery, Fundacion Jimenez Diaz University Hospital, Madrid 28040, Spain

Stephen C Strom, PhD, Professor, Department of Laboratory Medicine, Division of Pathology, Karolinska Institutet, Stockholm 141-86, Sweden

Andrzej S Tarnawski, MD, PhD, DSc (Med), Professor of Medicine, Chief Gastroenterology, VA Long Beach Health Care System, University of California, Irvine, CA, 5901 E. Seventh Str., Long Beach,

CA 90822, United States

EDITORIAL BOARD MEMBERS
 All editorial board members resources online at <http://www.wjgnet.com/1007-9327/editorialboard.htm>

EDITORIAL OFFICE
 Jin-Lei Wang, Director
 Yuan Qi, Vice Director
 Ze-Mao Gong, Vice Director
World Journal of Gastroenterology
 Baishideng Publishing Group Inc
 7901 Stoneridge Drive, Suite 501,
 Pleasanton, CA 94588, USA
 Telephone: +1-925-2238242
 Fax: +1-925-2238243
 E-mail: editorialoffice@wjgnet.com
 Help Desk: <http://www.fpublishing.com/helpdesk>
<http://www.wjgnet.com>

PUBLISHER
 Baishideng Publishing Group Inc
 7901 Stoneridge Drive, Suite 501,
 Pleasanton, CA 94588, USA
 Telephone: +1-925-2238242
 Fax: +1-925-2238243
 E-mail: bpoffice@wjgnet.com
 Help Desk: <http://www.fpublishing.com/helpdesk>

<http://www.wjgnet.com>

PUBLICATION DATE
 October 14, 2017

COPYRIGHT
 © 2017 Baishideng Publishing Group Inc. Articles published by this Open-Access journal are distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits use, distribution, and reproduction in any medium, provided the original work is properly cited, the use is non commercial and is otherwise in compliance with the license.

SPECIAL STATEMENT
 All articles published in journals owned by the Baishideng Publishing Group (BPG) represent the views and opinions of their authors, and not the views, opinions or policies of the BPG, except where otherwise explicitly indicated.

INSTRUCTIONS TO AUTHORS
 Full instructions are available online at <http://www.wjgnet.com/bpg/gerinfo/204>

ONLINE SUBMISSION
<http://www.fpublishing.com>

Evolving role of FDG-PET/CT in prognostic evaluation of resectable gastric cancer

Emilio De Raffe, Mariateresa Mirarchi, Dajana Cuicchi, Ferdinando Lecce, Bruno Cola

Emilio De Raffe, Dajana Cuicchi, Ferdinando Lecce, Bruno Cola, Unità Operativa di Chirurgia Generale, Dipartimento dell'Apparato Digerente, Azienda Ospedaliero-Universitaria di Bologna, Policlinico S. Orsola-Malpighi, 40138 Bologna, Italy

Mariateresa Mirarchi, U.O. di Chirurgia Generale, Dipartimento Strutturale Chirurgico, Ospedale "SS Antonio e Margherita", 15057 Tortona, Italy

ORCID number: Emilio De Raffe (0000-0003-1743-7471); Mariateresa Mirarchi (0000-0003-1896-2438); Dajana Cuicchi (0000-0002-1504-4888); Ferdinando Lecce (0000-0003-2042-0339); Bruno Cola (0000-0002-3568-9835).

Author contributions: De Raffe E conceived of and designed the study, and wrote the manuscript; De Raffe E, Mirarchi M, Cuicchi D and Lecce F contributed to acquisition, analysis and interpretation of data; Cola B made critical revisions on and provided final approval of the paper.

Conflict-of-interest statement: None of the authors have any conflict of interest related to this publication.

Open-Access: This article is an open-access article which was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution Non Commercial (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: <http://creativecommons.org/licenses/by-nc/4.0/>

Manuscript source: Invited manuscript

Correspondence to: Emilio De Raffe, MD, PhD, Unità Operativa di Chirurgia Generale, Dipartimento dell'Apparato Digerente, Azienda Ospedaliero-Universitaria di Bologna, Policlinico S. Orsola-Malpighi, Via Massarenti 9, 40138 Bologna, Italy. e.deraffe@aosp.bo.it
Telephone: +39-51-6364235
Fax: +39-51-6363412

Received: July 4, 2017

Peer-review started: July 5, 2017

First decision: July 28, 2017

Revised: August 28, 2017

Accepted: September 19, 2017

Article in press: September 19, 2017

Published online: October 14, 2017

Abstract

Gastric cancer (GC) remains a leading cause of cancer death worldwide. Radical gastrectomy is the only potentially curative treatment, and perioperative adjuvant therapies may improve the prognosis after curative resection. Prognosis largely depends on the tumour stage and histology, but the host systemic inflammatory response (SIR) to GC may contribute as well, as has been determined for other malignancies. In GC patients, the potential utility of positron emission tomography/computed tomography (PET/CT) with the imaging radiopharmaceutical ¹⁸F-fluorodeoxyglucose (FDG) is still debated, due to its lower sensitivity in diagnosing and staging GC compared to other imaging modalities. There is, however, growing evidence that FDG uptake in the primary tumour and regional lymph nodes may be efficient for predicting prognosis of resected patients and for monitoring tumour response to perioperative treatments, having prognostic value in that it can change therapeutic strategies. Moreover, FDG uptake in bone marrow seems to be significantly associated with SIR to GC and to represent an efficient prognostic factor after curative surgery. In conclusion, PET/CT technology is efficient in GC patients, since it is useful to integrate other imaging modalities in staging tumours and may have prognostic value that can change therapeutic strategies. With ongoing improvements, PET/CT imaging may gain further importance in the management of GC patients.

Key words: Gastric cancer; Prognosis; ¹⁸F-fluorodeoxyglucose; Positron emission tomography-computed tomography; Bone marrow

© The Author(s) 2017. Published by Baishideng Publishing Group Inc. All rights reserved.

Core tip: Gastric cancer (GC) is still a leading cause of cancer death worldwide. Prognosis depends on surgical curability, response to adjuvant therapies, tumour stage and histology, but also on the systemic inflammatory response to malignancy. While the diagnostic role of positron emission tomography with ¹⁸F-fluorodeoxyglucose (FDG) in GC is still debated, due to unsatisfactory sensitivity, there is growing evidence that FDG uptake, either at the tumour sites or in the bone marrow, may represent an efficient tool for predicting prognosis of resected patients and for monitoring tumour response to adjuvant treatments, and may have prognostic value in directing therapeutic strategies.

De Raffe E, Mirarchi M, Cuicchi D, Lecce F, Cola B. Evolving role of FDG-PET/CT in prognostic evaluation of resectable gastric cancer. *World J Gastroenterol* 2017; 23(38): 6923-6926 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v23/i38/6923.htm> DOI: <http://dx.doi.org/10.3748/wjg.v23.i38.6923>

INTRODUCTION

Gastric cancer (GC) remains a leading cause of cancer death worldwide, with poor prognosis despite significant advances in diagnosis and treatment. Survival rates are progressively increasing in western countries^[1-3], and are highest in Japan, due to focused management of preventive and prognosis-related factors (*i.e.* infection and smoking, respectively)^[2]. Prognostic factors related to GC are quite well established, such as local extension, lymph node involvement and presence of distant metastases, and can be adequately defined by the conventional imaging modalities, including endoscopic ultrasound (EUS), computed tomography (CT) and magnetic resonance imaging (MRI). However, some emerging prognostic factors related to the metabolism of tumour cells, such as the glucose avidity, or to the systemic inflammatory response (SIR) to the tumour can be better evaluated through the metabolic information that are provided by positron emission tomography (PET) integrated with CT, even though the role of PET/CT imaging in the evaluation of GC is still controversial.

CLASSIFICATION, THERAPEUTIC STRATEGIES AND PROGNOSIS

GC can be categorized according to anatomical location, as either true GC (non-cardia) or gastro-oesophageal-junction (cardia) cancer (GEJ)^[1,2]. In general, GC are predominantly adenocarcinomas, classified according to the World Health Organization

(WHO) classification into tubular, papillary, mucinous (MAC), poorly cohesive and rare variants^[1-3]. The Lauren classification distinguishes GC according to intestinal type, diffuse type (including signet ring cell carcinoma (SRC)), mixed type and indeterminate type^[1-3]. Classification of GC based on molecular subtyping has been proposed recently^[1] and is promising for helping to improve the accuracy of prediction of individual prognosis and for providing individually-tailored therapies.

Radical surgical resection is the only potentially curative therapeutic option for resectable GC presently. Adequate surgery includes complete resection of the primary tumour and appropriate lymphadenectomy. Tumours of the lower two-thirds of the stomach can be selectively treated with distal subtotal gastrectomy; otherwise, total gastrectomy is recommended^[2-4]. This approach has contributed in part to the amelioration of cure rates from 30% to over 50% in selected series over the past decade^[1]. Early GC (EGC) is defined as limited to the mucosa or submucosa (T1 stage or lower), regardless of nodal status. Endoscopic resection is considered appropriate for small (≤ 20 mm), non-ulcerated, superficial GC that are well differentiated and limited to the mucosa (T1a), because the incidence of regional lymph node metastases is very low^[3]. If, however, the tumour has invaded the submucosa (T1b), radical gastrectomy with lymphadenectomy is required, since lymph node involvement is observed in up to 20% of cases^[1,2].

Locally advanced GC (AGC; invading the muscularis propria and beyond (T2 stage or higher)) presents in most cases with metastases to lymph nodes, distant organs, or both. Patients without distant metastases are candidates for potentially radical surgery, either conventional or minimally invasive by laparoscopy^[1-4]. Perioperative therapies for resectable GC include chemotherapy (CHT), radiotherapy and chemoradiotherapy, performed before and/or after surgery. Even though adjuvant and neoadjuvant therapies have been demonstrated to improve prognosis after potentially curative resection of locally AGC, the optimal strategy is still debated^[1-3].

Despite substantial advances in the staging procedures, imaging techniques and treatment options, prognosis of GC remains poor, with postoperative 5-year survival rates of 25%-30% in western countries, because of the high incidence of advanced tumours^[3]. Cardia GC and diffuse-type non-cardia GC have the worst prognosis. For resectable locally AGC, outcome depends on the surgical disease stage. Resection of EGC provides excellent 5-year survival rates, up to 90%. However, at the time of diagnosis GC is usually advanced, with reported involvement of the regional lymph nodes in 70% to 80% of cases. If the tumour invades the subserosa (T3 stage), 5-year survival decreases to less than 50%. Moreover, the presence of nodal involvement in T3 lesions further decreases 5-year overall survival to less than 30%^[2].

Besides tumour-related factors, the survival of GC patients, as for other malignancies, is also dependent on the host's reaction to the cancer. SIR plays a critical role in carcinogenesis and tumour diffusion^[5]. Several host SIR markers (SIRMs) have been identified as prognostic factors. Neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), albumin and C-reactive protein (CRP) have been indicated, alone or in combination, as significant factors for predicting postoperative prognosis of GC patients^[6,7].

ROLE OF PET/CT IN DIAGNOSIS AND PROGNOSTIC EVALUATION

Clinical evaluation of GC has greatly improved with the availability of EUS, CT, MRI, PET/CT and laparoscopic staging. PET/CT using ¹⁸F-fluorodeoxyglucose (FDG) has proven useful for staging, detecting recurrence, evaluating treatment response and predicting prognosis^[1-4,8,9]. However, the overall sensitivity of FDG-PET/CT for detecting GC is lower than for most other malignancies, so that its effective role in GC patients is still controversial^[8,9]. FDG-PET may have different sensitivities for different histotypes, with better sensitivity for GEJ tumours, but significantly lower sensitivities for diffuse type adenocarcinoma, including SRC, or for MAC^[8,9]. Since tumour size and depth of invasion are significant factors influencing FDG-PET detection of GC, sensitivity is low for EGC and far higher for AGC. Altogether, the role of PET/CT is limited in T staging due to its low spatial resolution^[9]. For N staging in GC, the sensitivity and specificity of FDG-PET/CT range between 33.3%-64.6% and 85.7%-97.0%, respectively^[8]. The low sensitivity in detecting lymph node metastases may be related to the histotype of the primary tumour, or even to the size of the metastatic lymph nodes; some small lymph nodes may be difficult to visualize because of the radioactive volume effect generated by the nearby primary cancer^[8,9]. Nonetheless, FDG-PET/CT is considered to have higher specificity than CT and MRI in the N staging of GC, especially for the N2 and N3 groups^[9]. FDG-PET/CT has lower sensitivity than CT for the diagnosis of peritoneal seeding, while being more efficient in the detection of solid organ metastases, including those involving the lung, liver, bone or adrenal gland, with near 100% sensitivity and specificity^[8,9].

Despite these limitations, FDG-PET/CT is emerging as an effective tool for therapeutic and prognostic evaluation of AGC. Preoperative FDG uptake has been demonstrated as an independent, significant prognostic factor following curative gastrectomy^[8,9], although, the collective data are not in full agreement. Patients with lower preoperative FDG uptake in the GC have shown significantly lower incidence of recurrence and better recurrence-free survival after surgery^[8,9]. Lower preoperative FDG uptake has been reported as

a predictor of tumour curability at the time of surgery, since higher FDG uptake in the primary tumour and positive FDG uptake in local lymph nodes have been significantly associated with non-curative resection, suggesting that these patients should be candidates for neoadjuvant CHT^[9].

Neoadjuvant treatments have been increasingly used for AGC to reduce tumour stage, plan the optimal surgical timing and strategies, and improve the overall prognosis^[9]. About 30% to 60% of histologically partial or even total responders have been reported with different therapeutic regimens^[8]. Since patients with clinical and pathological response to neoadjuvant therapies are considered to gain significant survival benefit, the prompt identification of responders seems to be essential. FDG uptake in PET/CT scans is actually considered an early and sensitive indicator of response to treatment^[2,3,8,9], concordant with histopathological analysis for tumour response. Changes in FDG uptake soon after the initiation of treatment have been related to final outcome also. In some studies, metabolic responders have shown better prognosis than non-responders, while FDG non-avid tumours seem to have poor response rates to CHT and unfavourable prognosis, indicating that neoadjuvant therapies may be ineffective in metabolic non-responders and in patients with low FDG uptake at baseline PET imaging^[8].

In neoplastic patients, FDG uptake in bone marrow (BM) on PET/CT has been shown to be significantly associated with SIRMs, suggesting that this imaging finding has a significant relationship with SIR to malignancy^[7]. In non-small cell lung cancer patients with curative surgical resection, Lee *et al.*^[7] have recently shown that the FDG uptake in BM and the BM to liver uptake ratio (BLR) were significantly correlated with albumin and CRP levels, white blood cell count, NLR and PLR; moreover, the BLR was identified as an independent prognostic factor of recurrence-free survival. The authors concluded that the FDG uptake in BM for non-small cell lung cancer patients reflects the degree of SIR and can be used as a prognostic factor after curative surgery^[7].

In a recent retrospective series of 309 GC patients undergoing curative surgical resection, Lee *et al.*^[10] demonstrated that the preoperative BM FDG uptake, and BLR especially, are correlated with SIRMs of GC. In addition, patients with AGC, recurrence and positive FDG uptake of primary cancer were shown to have higher BM FDG uptake than those with EGC, no recurrence and negative FDG uptake, respectively; thus, GC patients with advanced stage and aggressive features might have higher degrees of SIR. BLR was identified as an independent prognostic factor for predicting survival, along with T4 stage, lymph node metastasis and positive resection margin. The authors conclude that for GC, both tumour factors and SIR could play important roles in long-term prognosis of resectable patients, and that BM FDG uptake could

reflect the degree of SIR to cancer and provide information on prognosis after curative surgery.

CONCLUSION

In conclusion, PET/CT technology represents an efficient tool for use in GC patients, since it is useful to integrate other imaging modalities in staging tumours. Moreover, it can be effective in monitoring tumour response to treatments and may have prognostic value with the potential to change therapeutic strategies. Although some problems still persist, PET/CT imaging remains promising, and with ongoing improvements may gain further importance in the evaluation and treatment of GC patients.

REFERENCES

- 1 **Van Cutsem E**, Sagaert X, Topal B, Haustermans K, Prenen H. Gastric cancer. *Lancet* 2016; **388**: 2654-2664 [PMID: 27156933 DOI: 10.1016/S0140-6736(16)30354-3]
- 2 **Ahmad SA**, Xia BT, Bailey CE, Abbott DE, Helmink BA, Daly MC, Thota R, Schlegel C, Winer LK, Ahmad SA, Al Humaidi AH, Parikh AA. An update on gastric cancer. *Curr Probl Surg* 2016; **53**: 449-490 [PMID: 27671911 DOI: 10.1067/j.cpsurg.2016.08.001]
- 3 **de Mestier L**, Lardiére-Deguelte S, Volet J, Kianmanesh R, Bouché O. Recent insights in the therapeutic management of patients with gastric cancer. *Dig Liver Dis* 2016; **48**: 984-994 [PMID: 27156069 DOI: 10.1016/j.dld.2016.04.010]
- 4 **Waddell T**, Verheij M, Allum W, Cunningham D, Cervantes A, Arnold D; European Society for Medical Oncology (ESMO); European Society of Surgical Oncology (ESSO); European Society of Radiotherapy and Oncology (ESTRO). Gastric cancer: ESMO-ESSO-ESTRO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol* 2013; **24** Suppl 6: vi57-vi63 [PMID: 24078663 DOI: 10.1093/annonc/mdt344]
- 5 **Elinav E**, Nowarski R, Thaiss CA, Hu B, Jin C, Flavell RA. Inflammation-induced cancer: crosstalk between tumours, immune cells and microorganisms. *Nat Rev Cancer* 2013; **13**: 759-771 [PMID: 24154716 DOI: 10.1038/nrc3611]
- 6 **Liu J**, Geng Q, Chen S, Liu X, Kong P, Zhou Z, Zhan Y, Xu D. Nomogram based on systemic inflammatory response markers predicting the survival of patients with resectable gastric cancer after D2 gastrectomy. *Oncotarget* 2016; **7**: 37556-37565 [PMID: 27121054 DOI: 10.18632/oncotarget.8788]
- 7 **Lee JW**, Na JO, Kang DY, Lee SY, Lee SM. Prognostic Significance of FDG Uptake of Bone Marrow on PET/CT in Patients With Non-Small-Cell Lung Cancer After Curative Surgical Resection. *Clin Lung Cancer* 2017; **18**: 198-206 [PMID: 27495385 DOI: 10.1016/j.clcc.2016.07.001]
- 8 **Wu CX**, Zhu ZH. Diagnosis and evaluation of gastric cancer by positron emission tomography. *World J Gastroenterol* 2014; **20**: 4574-4585 [PMID: 24782610 DOI: 10.3748/wjg.v20.i16.4574]
- 9 **Yun M**. Imaging of Gastric Cancer Metabolism Using 18 F-FDG PET/CT. *J Gastric Cancer* 2014; **14**: 1-6 [PMID: 24765531 DOI: 10.5230/jgc.2014.14.1.1]
- 10 **Lee JW**, Lee MS, Chung IK, Son MW, Cho YS, Lee SM. Clinical implication of FDG uptake of bone marrow on PET/CT in gastric cancer patients with surgical resection. *World J Gastroenterol* 2017; **23**: 2385-2395 [PMID: 28428718 DOI: 10.3748/wjg.v23.i13.2385]

P- Reviewer: Abadi ATB, Amiri M, Cheng H, Tsunoda S
S- Editor: Qi Y **L- Editor:** Filipodia **E- Editor:** Ma YJ





Published by **Baishideng Publishing Group Inc**
7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
Telephone: +1-925-223-8242
Fax: +1-925-223-8243
E-mail: bpgoffice@wjgnet.com
Help Desk: <http://www.f6publishing.com/helpdesk>
<http://www.wjgnet.com>



ISSN 1007-9327

