

# World Journal of *Gastrointestinal Surgery*

*World J Gastrointest Surg* 2024 August 27; 16(8): 2365-2747



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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 2024 Edition of Journal Citation Reports® cites the 2023 journal impact factor (JIF) for *WJGS* as 1.8; JIF without journal self cites: 1.7; 5-year JIF: 1.9; JIF Rank: 123/290 in surgery; JIF Quartile: Q2; and 5-year JIF Quartile: Q3.

**RESPONSIBLE EDITORS FOR THIS ISSUE**

Production Editor: Zi-Hang Xu, Production Department Director: Xiang Li, Cover Editor: 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

**EDITORIAL BOARD MEMBERS**

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

**PUBLICATION DATE**

August 27, 2024

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**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>



## Treatment strategy and therapy based on immune response in patients with gastric cancers

Damian Jacenik, Jakub Fichna

**Specialty type:** Gastroenterology and hepatology

**Provenance and peer review:** Invited article; Externally peer reviewed.

**Peer-review model:** Single blind

**Peer-review report's classification**

**Scientific Quality:** Grade A

**Novelty:** Grade B

**Creativity or Innovation:** Grade B

**Scientific Significance:** Grade B

**P-Reviewer:** Nashwan AJ, Qatar

**Received:** April 3, 2024

**Revised:** May 7, 2024

**Accepted:** June 4, 2024

**Published online:** August 27, 2024

**Processing time:** 135 Days and 7.7 Hours



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### Abstract

In this editorial, we highlight the significance of a retrospective study “Analysis of the impact of immunotherapy efficacy and safety in patients with gastric cancer and liver metastasis” performed by Liu *et al.* The authors utilized data collected from gastric cancer (GC) patients and assessed immunotherapy effectiveness and survival status. They found significant differences in treatment response. Because immunotherapy seems to be a beneficial strategy for advanced GC patients, stratification of the data based on metastasis status may further improve treatment strategies.

**Key Words:** Gastric cancer; Metastasis; Immunotherapy; Treatment strategy

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**Core Tip:** Gastric cancer (GC) is a highly heterogenous disease that affects patients' outcomes. Immunotherapy in GC patients seems to provide several clinical benefits, and retrospective studies are needed to evaluate immunotherapy efficiency and safety. The aim of this editorial is to provide a short and informative introduction elaborating the efficiency and safety of immunotherapy in patients with advanced GCs manifested by absence or presence of liver metastasis.

**Citation:** Jacenik D, Fichna J. Treatment strategy and therapy based on immune response in patients with gastric cancers. *World J Gastrointest Surg* 2024; 16(8): 2393-2395

**URL:** <https://www.wjgnet.com/1948-9366/full/v16/i8/2393.htm>

**DOI:** <https://dx.doi.org/10.4240/wjgs.v16.i8.2393>

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## INTRODUCTION

There are treatment strategies based on immunotherapy that are approved by United States and European authorities for patients with advanced gastric cancer (GC) including monotherapy and chemotherapy combined with immunotherapy. Moreover, numerous treatment approaches are tested and validated under experimental and clinical investigations. From the clinical point of view, immune checkpoint inhibitors such as programmed cell death protein and its ligand (PD-L1), and cytotoxic T-lymphocyte-associated protein 4 may deliver several benefits for GC patients, such as improvement of overall survival or progression-free survival[1,2]. This phenomenon is related with the blockage of a critical immune checkpoint, stimulation of which inhibits anti-cancer immunity. For instance, solid tumours including GC are characterized by large amount of PD-L1, whose enhanced production in tumour mass suppresses the action of T cells allowing tumour cells avoid the immune response. Nevertheless, limited efforts have been made to explore the efficiency of immunotherapy, especially in GC patients. Additional retrospective investigations should be conducted to evaluate its clinical benefits in GC patients regarding various clinicopathological parameters and molecular patterns such as HER2 and PD-L1 status, which should be examined and further taken into consideration in GC patients to determine effective treatment strategy. Perioperative chemotherapy is the gold standard for GC treatment, showing significant improvement in overall survival and progression-free survival of GC patients[3,4]. Moreover, treatment of GC with distant organ metastasis is still challenging, and additional efforts have been made to improve survival and patients' quality of life.

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## IMMUNOTHERAPY IN GASTRIC CANCER

In volume 16 issue 3 of the *World Journal of Gastrointestinal Surgery*, Liu *et al*[5] investigated the efficacy and safety of immunotherapy in a cohort of 48 patients with advanced GC manifested by absence or presence of liver metastasis[5]. In fact, immunotherapy efficiency may vary, and this phenomenon can be related to complexity of the tumour microenvironment[6]. Numerous attempts have been made to predict potential benefits of immunotherapy in GC patients[7-9]. In contrast, there are case reports suggesting that immunotherapy is not suitable for all metastatic GC patients[10]. However, to sufficiently explore this issue, the whole picture of the disease is needed. Consequently, recent studies conducted by Liang *et al*[11] pointed that peritoneal metastasis is associated with poor response to immune checkpoint inhibitors in GC patients[11]. The study performed by Liu *et al*[5] includes adding the value of distance metastasis in the aspect of immunotherapy efficiency in GC patients[5]. They found that GC patients with liver metastasis are characterized by lower rate of response to immunotherapy and those GC patients have poorer survival rates. Beside the efficacy of immunotherapy, Liu *et al*[5] evaluated the safety of immunotherapy in advanced GC patients[5]. In fact, they were able to show that immunotherapy seems to be relatively safe for advanced GC patients and the main side effect observed in the evaluated cohort of GC patients were vomiting, nausea and exhaustion.

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## CONCLUSION

Evidence provided by Liu *et al*[5] allows us to evaluate the outcome of patients with advanced GCs under immunotherapy and to provide evidence that this approach is much less effective in advanced GC patients with liver metastasis. Finally, this retrospective study may improve therapeutic strategy for advanced GC patients. Nevertheless, further experimental and clinical investigations employing a large cohort of GC patients with metastasis should be performed.

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## FOOTNOTES

**Author contributions:** Jacenik D and Fichna J wrote, reviewed and edited the manuscript; Jacenik D wrote the original draft and conceptualised the manuscript.

**Conflict-of-interest statement:** The authors declare having no conflicts of interest.

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**S-Editor:** Bai Y

**L-Editor:** Filipodia

**P-Editor:** Wang WB



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