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EDITORIAL

Recommendations for articles and reviews in colorectal cancer-related research at the year-end of 2023

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Abstract

As peer reviewers of the *World Journal of Gastroenterology*, our weekly routine involves immersing ourselves in the newly published issue, particularly focusing on the realm of colorectal cancer (CRC) research. We diligently sift through various contributions, ranging from comprehensive reviews to original articles and other scholarly works. Through meticulous examination, we discern the most notable papers, delving into each with careful scrutiny to distill their merits and shortcomings. Undoubtedly, this undertaking demands considerable time and effort. Yet, it stands as an indispensable pursuit, affording us a profound comprehension of the latest breakthroughs in CRC research. Moreover, these meticulously curated selections furnish readers with invaluable resources, serving as enduring references for the nuanced exploration of this dynamic field.

Key Words: Colorectal cancer; Molecular mechanism; Genetic marker; Application of new technologies; Diagnosis; Treatment

Core Tip: This editorial provides an insightful reflection from the perspective of peer reviewers on the colorectal cancer (CRC) research published in the *World Journal of Gastroenterology* throughout 2023. The reviewers discuss their meticulous process of assessing various articles, highlighting significant findings and challenges encountered in the review process. This article not only showcases the breadth and depth of recent advancements in CRC research but also delves into the reviewers' personal experiences and the rigorous standards they uphold to ensure the publication of high-quality, impactful research. Through this editorial, readers gain a unique glimpse into the critical role and thoughtful considerations of peer reviewers in shaping the scientific discourse in oncology.

INTRODUCTION

As peer reviewers for the *World Journal of Gastroenterology*, our routinely engage in an in-depth analysis of the Journal's latest publications, with a specific emphasis on advancements in colorectal cancer (CRC) research. Our approach involves a thorough assessment of a broad spectrum of scholarly contributions, encompassing extensive reviews, pioneering research articles, and other academic endeavors. Through a detailed and rigorous evaluation process, we identify and scrutinize the most impactful studies, extracting their core contributions and identifying any limitations. This laborious task, though demanding in both time and intellectual resources, is a critical component of our professional obligations, providing me with a comprehensive understanding of the forefront of CRC research. This meticulous selection process not only enhances our team own knowledge but also equips the broader academic community with a curated compilation of significant works, thereby facilitating a deeper and more nuanced engagement with this evolving scientific domain. Below are illustrative examples of our analytical reviews during this evaluative process.

HOT REVIEWS AND ARTICLES

We were particularly struck by the review titled "Emerging roles of non-coding RNAs in colorectal cancer oxaliplatin resistance and liquid biopsy potential"[1]. This study presents a compelling argument for focusing on non-coding RNAs as a strategic approach to circumvent oxaliplatin resistance in CRC, offering a promising avenue for research and therapeutic intervention.

The "Review of ferroptosis in colorectal cancer: Friends or foes?"[2]. This work provides an exhaustive and insightful summary of the latest findings related to ferroptosis in CRC. Despite receiving mixed evaluations from reviewers, I consider it a uniquely valuable contribution to the field, meriting careful consideration by the research community.

The review "Resistance to targeted therapy in metastatic colorectal cancer: Current status and new developments"[3] caught our attention for its clear articulation of the challenges and potential strategies in addressing resistance mechanisms in the context of targeted therapy for metastatic CRC (mCRC). This piece effectively lays the groundwork for a detailed discussion on a critical and developing area of CRC treatment.

For this issue, the paper titled "Influence of methyl donor nutrients as epigenetic regulators in colorectal cancer: A systematic review of observational studies"[4], stands out for its originality. The authors investigate the role of dietary methyl donors in DNA methylation processes during CRC carcinogenesis, particularly in relation to polymorphisms in epigenetic regulatory mechanisms. Despite notable limitations such as study heterogeneity, residual confounding, and constrained sample sizes, this research offers novel insights into the epigenetic underpinnings of CRC, highlighting its significance within the field.

The review by Saraiva *et al*[5] "Early-onset colorectal cancer: A review of current knowledge" illuminates the pressing public health challenge presented by early-onset CRC (EO-CRC), marked by its ascending prevalence among individuals younger than 50 years. This review stands as a clarion call to the medical and research communities, underscoring the necessity for heightened awareness and targeted research efforts to combat this troubling trend.

In this issue, the edition also brought to the fore a remarkable article, "Molecular mechanisms targeting drug-resistance and metastasis in colorectal cancer: Updates and beyond"[6]. This manuscript delivers an exhaustive analysis of the current landscape in the application of targeted therapies for metastatic CRC (mCRC), spotlighting the hurdles of drug resistance and the promising horizon of personalized therapeutic strategies. It represents a distinguished review within the realm of CRC research, meriting additional exploration into prospective research trajectories that could further elucidate this complex field.

The research conducted by Leowattana *et al*[7] title "Systemic treatment for metastatic colorectal cancer", earns our admiration for its substantial contribution to our understanding of the dynamic treatment landscape for mCRC. Specifically, their focus on leveraging molecular technologies to optimize patient care through personalized treatment modalities offers valuable perspectives on advancing the efficacy and precision of cancer therapy.

Another noteworthy contribution within this issue is the paper titled "Application of nanotechnology in reversing therapeutic resistance and controlling metastasis of colorectal cancer"[8]. This document is commendable for its innovative systematic review of how nanotechnology can be harnessed to counteract drug resistance and manage metastasis in CRC, showcasing a forward-thinking approach to addressing two of the most daunting challenges in the treatment of this disease.

In this issue, the study titled "Different types of fruit intake and colorectal cancer risk: A meta-analysis of observational studies"[9] stands out for its innovative exploration into how various fruit types correlate with CRC risk. This meta-analysis sheds light on significant findings, contributing valuable insights into dietary influences on cancer prevention and offering a nuanced understanding of the relationship between fruit consumption and CRC risk.

The critical review on "Wingless/It/β-catenin signaling in liver metastasis from colorectal cancer: A focus on biological mechanisms and therapeutic opportunities"[10] delves into the pivotal role of the Wnt/β-catenin signaling pathway in CRC progression, particularly in the context of liver metastasis. This comprehensive examination not only elucidates the complex biological mechanisms underpinning this pathway but also highlights potential therapeutic avenues, offering a high-quality, instructive perspective on a fundamental aspect of CRC biology and treatment.

Furthermore, the retrospective cohort study "Endoscopic and pathological characteristics of de novo colorectal cancer: Retrospective cohort study"[11] marks a significant advancement in our understanding of de novo CRC. By differentiating these cancers from non-neoplastic polyps and introducing the evaluation of chicken skin mucosa depth-of-invasion, this research presents pioneering findings with substantial clinical implications. The unique research angle and the learning opportunity it presents are commendable, earning it recognition and a high grade from reviewers for its contribution to CRC diagnostics and management.

The selection of the article "Radiomics in colorectal cancer patients"[12] exemplifies the Journal's commitment to highlighting emerging research areas. The focus on radiomics underscores the growing interest in leveraging advanced imaging techniques for the nuanced characterization and treatment of CRC, showcasing the potential of radiomics to refine diagnostic and prognostic strategies in clinical practice.

In this issue, the article "BMI-1 activates hepatic stellate cells to promote the epithelial-mesenchymal transition of colorectal cancer cells"[13] sheds light on the role of BMI-1 in the activation of hepatic stellate cells, illustrating its part in enhancing the proliferation and migration of CRC cells, primarily through the TGF-β/SMAD signaling pathway. This revelation underscores the intricate cellular mechanisms contributing to CRC progression and highlights the potential of targeting the BMI-1 pathway as a therapeutic strategy to curb the metastatic capabilities of CRC.

This issue also features a pivotal study titled "Mechanism of ELL-associated factor 2 and vasohibin 1 regulating invasion, migration, and angiogenesis in colorectal cancer"[14]. The findings suggest that the overexpression of ELL-associated factor 2 could mitigate CRC cell invasion, migration, and angiogenesis by modulating the STAT3/TGF-β1 pathway *via* the upregulation of VASH1 expression. This study contributes significantly to our understanding of the molecular dynamics at play in CRC metastasis, offering promising avenues for the development of targeted therapies aimed at inhibiting these malignant processes.

The retrospective cohort study titled "Different oncological features of colorectal cancer codon-specific KRAS mutations: Not codon 13 but codon 12 have prognostic value"[15] delves into the prognostic implications of specific Kirsten rat sarcoma 2 viral oncogene homolog (KRAS) mutations in CRC. By demonstrating that mutations in KRAS codon 12, as opposed to codon 13, possess greater prognostic value, this research highlights the nuanced molecular diversity within CRC and its implications for personalized medicine. The study's focus on a large-scale cohort underscores the importance of genetic specificity in guiding the prognosis and treatment strategies for CRC patients, emphasizing the potential for more targeted and effective therapeutic interventions.

In this issue, the study "regenerating gene 4 promotes chemoresistance of colorectal cancer by affecting lipid droplet synthesis and assembly"[16] presents a compelling investigation into the mechanisms of chemoresistance in CRC. It elucidates how the *regenerating gene 4* (*REG4*) influences the synthesis and assembly of lipid droplets, thereby promoting chemoresistance in CRC cells. This insight not only advances our understanding of the biological underpinnings of chemoresistance but also positions *REG4* as a promising target for therapeutic intervention. The study's excellence is further affirmed by the high evaluations it received from reviewers, garnering grades A and B respectively, highlighting its significant contribution to the field.

In this issue, a meta-analysis "Diagnostic value of methylated branched chain amino acid transaminase 1/IKAROS family zinc finger 1 for colorectal cancer"[17] delivers a noteworthy assessment of novel biomarkers for CRC diagnosis. By systematically reviewing the diagnostic potential of methylated genes, this study underscores the evolving landscape of CRC detection, and its findings have been well-received by peer reviewers, earning a Grade B for its thoroughness and potential clinical application.

The case-control study "Leukocyte immunoglobulin-like receptor B2 overexpression as a promising therapeutic target and noninvasive screening biomarker for colorectal cancer"[18] explores the role of Leukocyte immunoglobulin-like receptor B2 (LILRB2) in CRC. This research underscores LILRB2's potential as both a novel therapeutic target and a noninvasive biomarker, offering new avenues for early screening and precise treatment of CRC, which is pivotal for improving patient outcomes and advancing the field of oncology.

This issue featured two particularly intriguing CRC studies. The first, a basic study on "Prostaglandin F2α synthase promotes oxaliplatin resistance in colorectal cancer through prostaglandin F2α-dependent and F2α-independent mechanism"[19] delves into the complex mechanisms behind drug resistance, revealing both prostaglandin F2α-dependent and independent pathways. Despite mixed reviews, its exploration of resistance mechanisms offers valuable insights. The second, a retrospective cohort study, "Development and validation of a nomogram for preoperative prediction of tumor deposits in colorectal cancer"[20], provides a practical tool for clinicians to identify CRC patients at high risk for tumor deposits, facilitating personalized treatment plans. This study was met with strong approval from

reviewers, receiving grades A and B, underscoring its importance in enhancing patient management strategies.

Lastly, the article "5-methoxytryptophan induced apoptosis and PI3K/Akt/FoxO3a phosphorylation in colorectal cancer"[21] introduces groundbreaking findings on the apoptosis-inducing capabilities of 5-methoxytryptophan through the PI3K/Akt/FoxO3a pathway in CRC. This study not only contributes to our understanding of the molecular mechanisms involved in CRC progression but also opens up new therapeutic possibilities for the treatment of this malignancy, showcasing the ongoing innovation within cancer research.

METHODOLOGICAL INSIGHTS INTO THE REVIEW PROCESS

In the peer review process, in addition to strictly adhering to the requirements of the journal, the main considerations are as follows: (1) Detailed reading and understanding: It is very important to thoroughly read and understand the content of the manuscript before starting the review, especially the abstract. This step mainly involves understanding the research question, design, methods, results, and conclusions of the paper; (2) Assessment of the appropriateness of the research methods: This involves examining whether the research methods are suitable for addressing the research question, mainly evaluating the rigor of the data collection and analysis methods, and whether these methods can reasonably support the author's conclusions; (3) Identification of research flaws and limitations: Within one's own field of expertise, identify any potential flaws or limitations that could affect the reliability of the research results should be identified. For clinical studies, the main focus is on whether the sample size is adequate, whether the experimental design is biased, and whether the statistical analysis is appropriate. For bioinformatics articles, the focus is on whether the database selection is correct, whether the data processing methods are correct, whether the data processing process is clear, and whether there is database or experimental validation is performed. Review articles should aim to include as many classic, recent, and influential publications in the field as possible, and should also present personal viewpoints and suggestions, rather than merely describing accumulating literature; (4) Originality and contribution assessment: This assessment mainly to clarify whether the research has provided new insights or significantly advanced existing knowledge and the potential impact of the research on the academic field; (5) Fairness and impartiality: We believe that maintaining objectivity and professionalism is a crucial duty of peer reviewers. The review process should be fair and unbiased and not influenced by personal preferences, research fields, or other external factors; (6) Providing constructive feedback: During the review process, we will specifically point out areas that need improvement for all manuscripts and provide concrete suggestions, rather than vaguely pointing out some shortcomings without offering any constructive feedback; (7) Adherence to ethical standards: Ethical review is a very important step in research, including but not limited to obtaining informed consent from participants and ensuring data privacy, and the welfare of experimental animals. Research that fails to obtain necessary ethical approval, or where the ethics endorsement does not align with the affiliations of all listed authors, will be subject to veto; (8) Maintaining the confidentiality of the paper: The content of the paper, review comments, or plagiarism of the paper content should not be disclosed; and (9) Issues of scientific integrity: During the review process, we especially focus on phenomena that may involve scientific misconduct. For example, in cases involving personal emails from corresponding authors that are composed of simple repeated numbers or characters that seem to be unrelated to the corresponding authors and the appearance of corresponding authors emails in other articles with different authors listed, the review will be cancelled and feedback will be given to the editor. Through these methodological insights, we believe that we can more effectively participate in the quality control process of scientific research, not only enhancing the research level of the team but also promoting the overall development and progress of the academic community.

However, the peer review process still faces several challenges and difficulties, including the following issues: (1) Bias: Personal biases toward specific research fields, methodologies, institutions, or scholars can influence review outcomes. Implementing a double-blind review process can mitigate such biases, enabling more objective and fair evaluations; (2) Time and workload pressure: providing high-quality feedback requires considerable time and effort. This presents a significant challenge for many part-time reviewers, including us, who must also dedicate substantial time to our primary professional responsibilities; and (3) Complex and interdisciplinary research: As scientific research increasingly favors interdisciplinary collaboration, reviewers are often required to make judgments in fields with which they are not fully familiar with. This necessitates continuous learning and self-improvement by reviewers to keep their knowledge up-to-date and accurately assess new research findings.

CONCLUSION

In conclusion, the insights gleaned from the comprehensive review of the *World Journal of Gastroenterology*, Volume 29, encapsulate a broad spectrum of groundbreaking research in the field of CRC. The array of studies, ranging from the exploration of molecular mechanisms underlying drug resistance and metastasis to the identification of novel biomarkers for early detection and therapeutic targeting, underscores the dynamic and multifaceted nature of CRC research. Particularly notable are the advancements in understanding the genetic underpinnings of CRC, such as the role of the *REG4* in chemoresistance, the diagnostic potential of methylated genes, and the prognostic significance of KRAS mutations. Moreover, the application of cutting-edge technologies, including nanotechnology and radiomics, highlights the innovative approaches being undertaken to overcome the challenges of treatment resistance and improve patient outcomes.

The diversity of research, from basic studies elucidating molecular pathways to clinical investigations developing predictive models and identifying non-invasive biomarkers, reflects a concerted effort across the scientific community to address the complex problem of CRC. The contributions discussed not only offer a deeper understanding of CRC but also pave the way for the development of more effective, personalized treatment strategies.

The high regard in which these studies are held, as evidenced by the peer review process, attests to their significance and the potential impact on future research and clinical practice. As we move forward, the insights gained from these studies will undoubtedly inform and inspire ongoing efforts to combat CRC, with the ultimate goal of enhancing patient care and improving survival outcomes.

FOOTNOTES

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