EDITORIAL

2686 Antifungal pipeline: Is there light at the end of the tunnel?
Schinas G, Spernovasilis N, Akinosoglou K

2692 Cracking the silent gallstone code: Wait or operate?
Goswami AG, Basu S

2698 Metabolic dynamics in chronic gastritis: Examining urinary profiles post Helicobacter pylori eradication
Musharaf I, Nashwan AJ

2701 Pearls of meta-analyses and systematic review in scientific evidence
Au SCL

MINIREVIEWS

2704 Advanced nanomedicines and immunotherapeutics to treat respiratory diseases especially COVID-19 induced thrombosis
Wu J, Zheng Y, Zhang LN, Gu CL, Chen WL, Chang MQ

ORIGINAL ARTICLE

Retrospective Cohort Study

2713 Clinical efficacy of intradermal type I collagen injections in treating skin photoaging in patients from high-altitude areas

Retrospective Study

2722 Multimodal imaging in the diagnosis of bone giant cell tumors: A retrospective study
Kou MQ, Xu BQ, Liu HT

2729 Treatment for paraganglioma with stereotactic radiotherapy
Pontoriero A, Critelli P, Zeppieri M, Angileri FF, Ius T

2738 Effect of endoscopic full-thickness resection assisted by distal serosal turnover with floss traction for gastric submucosal masses
Liu TW, Lin XF, Wen ST, Xu JY, Fu ZL, Qin SM

2745 Relationship between ultrasound parameters of the umbilical and middle cerebral arteries and intrauterine fetal distress
Chen J, Liu FX, Tao RX
## Contents

**World Journal of Clinical Cases**

**Thrice Monthly Volume 12 Number 16 June 6, 2024**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2751</td>
<td>Effect of psychological nursing interventions on effectiveness and quality of life in schizophrenia patients receiving modified electroconvulsive therapy</td>
<td>Lu J</td>
</tr>
<tr>
<td>2758</td>
<td>Effect of percutaneous electrical stimulation at the Baliao point on preventing postpartum urinary retention after labor analgesia</td>
<td>Wang XQ, Guan LS</td>
</tr>
<tr>
<td>2765</td>
<td>Perceptions and factors influencing exercise interventions in elderly patients with debilitating spinal surgery and healthcare professionals: A qualitative study</td>
<td>Cheng RR, Li R</td>
</tr>
<tr>
<td>2773</td>
<td><em>Helicobacter pylori</em>: High dose amoxicillin does not improve primary or secondary eradication rates in an Irish cohort</td>
<td>Costigan C, O'Sullivan AM, O'Connell J, Sengupta S, Butler T, Molloy S, O'Hara FJ, Ryan B, Breslin N, O'Donnell S, O'Connor A, Smith S, McNamara D</td>
</tr>
<tr>
<td>2789</td>
<td>Causal association between 25-hydroxyvitamin D status and cataract development: A two-sample Mendelian randomization study</td>
<td>Wang CH, Xin ZK</td>
</tr>
<tr>
<td>2796</td>
<td>Fat management in upper blepharoplasty: Addition or subtraction blepharoplasties, how and when</td>
<td>Miotti G, Di Filippo J, Grando M, Salati C, Parodi PC, Spadea L, Gagliano C, Musa M, Zeppieri M</td>
</tr>
<tr>
<td>2803</td>
<td>Iron and ferritin effects on intensive care unit mortality: A meta-analysis</td>
<td>Yang DC, Zheng BJ, Li J, Yu Y</td>
</tr>
<tr>
<td>2813</td>
<td>Secondary diabetes due to different etiologies: Four case reports</td>
<td>Song WR, Xu XH, Li J, Yu J, Li YX</td>
</tr>
<tr>
<td>2822</td>
<td>Giant cavernous aneurysms occluded by aneurysmal thrombosis, calcification, parent artery occlusion: A case report and review of literature</td>
<td>Wang MX, Nie QB</td>
</tr>
</tbody>
</table>
Contents

Thrice Monthly Volume 12 Number 16 June 6, 2024

2831  Computed tomography three-dimensional reconstruction in the diagnosis of bleeding small intestinal polyps: A case report
Zhang SH, Fan MW, Chen Y, Hu YB, Liu CX

2837  Managing adult-onset Still's disease in pregnancy: A case report
Kang JH

2842  Eruptive xanthomas in a patient with severe hypertriglyceridemia: A case report
Ren C, Zhu L, Niu YC, Tu LY, Jin ZF, Zhang J

2847  Conversion therapy of a giant hepatocellular carcinoma with portal vein thrombus and inferior vena cava thrombus: A case report and review of literature
Song WJ, Xu J, Nie Y, Li WM, Li JP, Yang L, Wei MQ, Tao KS

2856  Migration of varicocele coil leading to ureteral obstruction and hydronephrosis: A case report
Alamri A

2862  Endoscopic ultrasound features of rectal melanoma: A case report and review of literature
Xiong ZE, Wei XX, Wang L, Xia C, Li ZY, Long C, Peng B, Wang T

2869  Giant vascular malformations invading the skull: A case report
Xie MC, Wang FX, Xu J

2876  Uterine epithelioid trophoblastic tumor with the main manifestation of increased human chorionic gonadotropin: A case report
Huang LN, Deng X, Xu J

2881  Dynamically changing antineutrophil cytoplasmic antibodies in granulomatosis with polyangiitis: A case report
Zhang Y, Dai QD, Wang JA, Xu LP, Chen Q, Jin YZ

2887  Clinicopathological analysis of EWSR1/FUS::NFATC2 rearranged sarcoma in the left forearm: A case report
Hu QL, Zeng C

2894  Thoracic giant cell tumor after two total en bloc spondylectomies including one emergency surgery: A case report
Liang HF, Xu H, Zhan MN, Xiao J, Li J, Fei QM

2904  Primary thoracolumbar intraspinal malignant melanoma: A case report
Huang JB, Xue HJ, Zhu BY, Lei Y, Pan L

2911  Liver abscess and tracheal fistula induced by transcatheter arterial chemoembolization for hepatocellular carcinoma: A case report
ABOUT COVER
Peer Reviewer of World Journal of Clinical Cases, Shyam Sundar Das Mohapatra, DNB, MBBS, Surgeon, Department of Comprehensive and Community Ophthalmology, Sri Sankaradeva Nethralaya, Guwahati 781028, Assam, India. drssdasmohapatra@gmail.com

AIMS AND SCOPE
The primary aim of World Journal of Clinical Cases (WJCC, World J Clin Cases) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING
The WJCC is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, 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 WJCC as 1.1; IF without journal self cites: 1.1; 5-year IF: 1.3; Journal Citation Indicator: 0.26; Ranking: 133 among 167 journals in medicine, general and internal; and Quartile category: Q4.

RESPONSIBLE EDITORS FOR THIS ISSUE
Production Editor: Si Zhao; Production Department Director: Xu Guo; Cover Editor: Jun-Lai Wang.
Metabolic dynamics in chronic gastritis: Examining urinary profiles post *Helicobacter pylori* eradication

Imshaal Musharaf, Abdulqadir J Nashwan

**Abstract**

Chronic gastritis is the persistent and insidious inflammation of the gastric lining. *Helicobacter pylori* (*H. pylori*) has been identified as the most common cause of chronic gastritis and consequently elimination of *H. pylori* can lead to its cure. This editorial explores the use of urinary metabolic profiles before and after eradication to identify biomarkers that can aid in prognosis and treatment. Despite providing promising insights, there are limitations such as a small sample size (17 patients), a narrow treatment period of 2 wk, and treatment heterogeneity, which raise concerns. Nevertheless, these findings have opened a gateway to enhancing the treatment and prognosis of chronic gastritis through urinary metabolomics.

**Key Words:** Gastritis; *Helicobacter pylori*; Chronic gastritis; Urine metabolomics; Quadruple therapy; Precancerous lesions

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

Gastritis is characterized by inflammation of the stomach lining, which usually follows mucosal damage[1]. When it persists over a long period, it may become chronic. Chronic gastritis is one of the most common and persistent ailments in humans. It is a critical condition that progresses gradually but harmfully. Chronic gastritis can manifest in either atrophic or metaplastic forms[2]. Chronic atrophic gastritis serves as a precursor condition in the progression toward gastric cancer[3], making it the second most prevalent cause of cancer-related death worldwide[4].

*Helicobacter pylori* (*H. pylori*) is a spiral-shaped Gram-negative bacterium equipped with flagella, which allows it to establish itself in the low oxygen conditions of the human gastrointestinal tract. It has advanced in its ability to thrive in the acidic environment of the stomach and to initiate infections[1]. *H. pylori* infections are the cause of many serious gastrointestinal problems, forming precancerous lesions. These include chronic atrophic gastritis, gastric intestinal metaplasia, peptic ulcer, and cancer. It has been identified as the most common cause of gastritis and after an acute *H. pylori* infection, most acute gastritis turns into chronic gastritis[1]. It has been observed that eradication of *H. pylori* can resolve chronic gastritis[2].

Urine metabolomics is a way of extensively measuring all metabolites and low-molecular-weight molecules within a urine sample, representing an evolving field. It characterizes a substantial amount of metabolites than any other clinical laboratory technique and provides a peek into extensive biological processes and metabolic pathways[5]. It is an essential technique for discerning the relationship between drug efficacy, pharmacological effects, and metabolic pathways through the evaluation of distinct biomarkers during the disease and its treatment[6]. It can serve as an important tool in assessing the treatment and prognosis of *H. pylori*-positive chronic gastritis patients, however, there are currently studies on this issue.

An et al[7] conducted an observational study that examined the metabolic changes associated with *H. pylori*-positive chronic gastritis before and after *H. pylori* eradication. The study incorporated 17 *H. pylori*-positive chronic gastritis patients who were diagnosed by the 14C/13C urea breath test. These patients were subjected to conventional quadruple therapy. Urinary samples were collected from these patients before and after treatment, which were then analyzed using liquid chromatography-tandem mass spectrometry to perform metabolomics and network pharmacology. Metabolomics analysis revealed that urinary metabolic profiles changed significantly after *H. pylori* eradication. The study established that the metabolites, cis-aconitic acid, isocitric acid, citric acid, L-tyrosine, L-phenylalanine, L-tryptophan, and hippuric acid, participated in four major metabolic pathways: Phenylalanine metabolism, phenylalanine and tryptophan biosynthesis, citrate cycle, and glyoxylate and dicarboxylate metabolism, which were most affected by *H. pylori* eradication therapy. Interestingly, it was also notable that changes in the levels of hippuric acid, isocitric acid, L-tryptophan, and L-phenylalanine are key indicators of the efficacy and prognosis of *H. pylori*-positive chronic gastritis treatment. The study concludes by foregrounding the analysis of urinary metabolites in the treatment and prognosis of the affected patients.

While the study exhibited remarkable findings, shedding light on potential biomarkers and therapeutic insights, certain elements limit the cogency of the study. The study initially encompassed approximately 180 patients, which laid a robust foundation. However, the sample size substantially reduced to only 17 individuals as only these patients met the inclusion criteria and were willing to be reexamined post-treatment. This small sample size does not adequately represent the diverse patient population affected by *H. pylori*-positive chronic gastritis hence increasing susceptibility to random variation which can potentially induce unreliable results. The limited sample size compromises the statistical power of the findings and makes it prone to sampling bias. There is heterogeneity in *H. pylori*-positive chronic gastritis which may manifest as severity, comorbidities and response to eradication therapy and a small sample size may not be able to account for it. A larger and more diverse sample would not only boost the reliability of the test but also consider the homogeneity among patients.

The treatment duration in the study was only 2 wk, which might not be enough to capture the full spectrum of metabolic changes associated with *H. pylori* eradication. *H. pylori*-positive chronic gastritis is a multifaceted condition, which triggers a series of complex metabolic changes. It is important to comprehend whether these changes persist or evolve over a long post-treatment period, which is not possible to detect in a limited duration. A prolonged duration of treatment or follow-up over an extended period could offer a more thorough understanding.

Another consideration is treatment heterogeneity. The study employed various alternatives of the quadruple therapy strategies for *H. pylori* eradication. While this approach reflects actual clinical scenarios, it can result in treatment heterogeneity. Different therapeutic regimens can potentially invoke different responses in patients while making it perplexing to determine whether an observed effect is the result of the eradication therapy or due to specific components of the treatment regimen compromising the validity of the results. A standardized treatment protocol would increase the validity. Finally, the study has set the “Fifth National Consensus Report on the Treatment of *H. pylori* Infection” as the sole diagnostic criteria. This may not consider the progressing standards or the regional variations in *H. pylori* detection techniques. Furthermore, diagnostic criteria can impact the sensitivity and specificity of tests used to detect *H. pylori* infection. Depending solely on a single criterion may not take into account variations in diagnostic accuracy among different methods or tests. Incorporating the latest diagnostic guidelines or considering the regional variations would enhance the diagnostic accuracy of the study.

CONCLUSION

The study on urinary metabolomics during *H. pylori* eradication in patients with chronic gastritis offers a comprehensive insight into the changes brought about by the treatment. The identification of metabolic biomarkers in the study lays the
foundation for revolutionary prognostic and therapeutic strategies. However, there are some limitations such as a restricted sample size, small treatment duration, non-standardized treatment protocol, and a single diagnostic criterion, that need to be addressed in future studies to enhance the robustness and reliability of the findings and contribute to the medical world.

FOOTNOTES

**Author contributions:** Musharaf I and Nashwan AJ wrote the draft and critically reviewed the literature.

**Conflict-of-interest statement:** All the authors declare that they have no conflict of interest.

**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:** Qatar

**ORCID number:** Abdulqadir J Nashwan 0000-0003-4845-4119.

**S-Editor:** Zheng XM

**L-Editor:** Webster JR

**P-Editor:** Zhang YL

REFERENCES


