

World Journal of *Clinical Cases*

World J Clin Cases 2024 February 16; 12(5): 872-1038



EDITORIAL

- 872 Is it possible to anchor a tooth with photobiomodulation?
Dominguez A
- 875 Strengthening pharmacotherapy research for COVID-19-induced pulmonary fibrosis
Liu YM, Zhang J, Wu JJ, Guo WW, Tang FS

ORIGINAL ARTICLE**Clinical and Translational Research**

- 880 Causal associations between gastroesophageal reflux disease and essential hypertension: A bidirectional Mendelian randomization study
Wei N, Liu MH, Song YH
- 891 Serum urate is associated with an increased risk of inflammatory bowel disease: A bidirectional Mendelian randomization study
Zhang S, Fang X, Kang L, Sui XY, Liu M, Luo YJ, Fu S, Li ZS, Zhao SB, Bai Y

Retrospective Cohort Study

- 903 Effect of health education based on information-motivation-behavioral skills model on patients with unilateral vestibular dysfunction
Shi Q, Wu RJ, Liu J

Retrospective Study

- 913 Removal of intrahepatic bile duct stone could reduce the risk of cholangiocarcinoma: A single-center retrospective study in South Korea
Kim TI, Han SY, Lee J, Kim DU
- 922 Effect of nursing on postoperative respiratory function and mental health of lung cancer patients
Yang X, Yin D, Chen SQ
- 931 Value of glucose transport protein 1 expression in detecting lymph node metastasis in patients with colorectal cancer
Kim H, Choi SY, Heo TY, Kim KR, Lee J, Yoo MY, Lee TG, Han JH

Observational Study

- 942 Clinical efficacy and mechanism study of mid-frequency anti-snoring device in treating moderate obstructive sleep apnea-hypopnea syndrome
Qian B, Chen ZJ, Wang YS, Hu XY, Hu XB, Zheng YH
- 951 Urinary metabolic profiles during *Helicobacter pylori* eradication in chronic gastritis
An WT, Hao YX, Li HX, Wu XK

- 966 Clinical significance of platelet mononuclear cell aggregates in patients with sepsis and acute respiratory distress syndrome

Huang CM, Li JJ, Wei WK

CASE REPORT

- 973 Left ventricular thrombosis caused cerebral embolism during venoarterial extracorporeal membrane oxygenation support: A case report

Bai YB, Zhao F, Wu ZH, Shi GN, Jiang N

- 980 Abnormal uterine bleeding successfully treated *via* ultrasound-guided microwave ablation of uterine myoma lesions: Three case reports

Kakinuma T, Kakinuma K, Okamoto R, Yanagida K, Ohwada M, Takeshima N

- 988 Omental fibroma combined with right indirect inguinal hernia masquerades as a scrotal tumor: A case report

Zhou P, Jin CH, Shi Y, Ma GQ, Wu WH, Wang Y, Cai K, Fan WF, Wang TB

- 995 Imaging, pathology, and diagnosis of solitary fibrous tumor of the pancreas: A case report and review of literature

Wang WW, Zhou SP, Wu X, Wang LL, Ruan Y, Lu J, Li HL, Ni XL, Qiu LL, Zhou XH

- 1004 Neuroimaging features in a patient with non-ketotic hyperglycaemic seizures: A case report

Wu J, Feng H, Zhao Y, Li J, Li T, Li K

- 1010 Novel approach of ultrasound-guided lateral recess block for a patient with lateral recess stenosis: A case report

Yang J, Li XL, Li QB

- 1018 Ankylosing spondylitis coexisting with *Clonorchis sinensis* infection: A case report

Yi TX, Liu W, Leng WF, Wang XC, Luo L

- 1025 Hematuria after nocturnal exercise of a man: A case report

Bai MJ, Yang ST, Liu XK

LETTER TO THE EDITOR

- 1029 Response letter to "Acute cholangitis: Does malignant biliary obstruction *vs* choledocholithiasis etiology change the outcomes?" with imaging aspects

Aydin S, Irgul B

- 1033 Exploring multifaceted factors in chronic kidney disease risk: A comprehensive analysis of biochemistry, lifestyle, and inflammation in elderly Chinese individuals

Cardona F

- 1036 Transcranial direct current stimulation efficacy in trigeminal neuralgia

Fasilis T, Gatzonis S, Patrikelis P, Korfiatis S, Alexoudi A

ABOUT COVER

Peer Reviewer of *World Journal of Clinical Cases*, Abdulkarim Hasan, MD, MSc, Consultant Physician-Scientist, Doctor, Lecturer, Department of Pathology, Al-Azhar University, Faculty of Medicine, Cairo 11884, Egypt. doctorabdulkarim7@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: Hua-Ge Yin; Production Department Director: Xiang Li; Editorial Office Director: Jin-Lei Wang.

NAME OF JOURNAL

World Journal of Clinical Cases

ISSN

ISSN 2307-8960 (online)

LAUNCH DATE

April 16, 2013

FREQUENCY

Thrice Monthly

EDITORS-IN-CHIEF

Bao-Gan Peng, Salim Surani, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati

EDITORIAL BOARD MEMBERS

<https://www.wjgnet.com/2307-8960/editorialboard.htm>

PUBLICATION DATE

February 16, 2024

COPYRIGHT

© 2024 Baishideng Publishing Group Inc

INSTRUCTIONS TO AUTHORS

<https://www.wjgnet.com/bpg/gerinfo/204>

GUIDELINES FOR ETHICS DOCUMENTS

<https://www.wjgnet.com/bpg/GerInfo/287>

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH

<https://www.wjgnet.com/bpg/gerinfo/240>

PUBLICATION ETHICS

<https://www.wjgnet.com/bpg/GerInfo/288>

PUBLICATION MISCONDUCT

<https://www.wjgnet.com/bpg/gerinfo/208>

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>



Hematuria after nocturnal exercise of a man: A case report

Ming-Jian Bai, Song-Tao Yang, Xue-Kai Liu

Specialty type: Urology and nephrology

Provenance and peer review:

Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): B
Grade C (Good): 0
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Shalaby MN, Egypt

Received: December 10, 2023

Peer-review started: December 10, 2023

First decision: December 18, 2023

Revised: December 28, 2023

Accepted: January 22, 2024

Article in press: January 22, 2024

Published online: February 16, 2024



Ming-Jian Bai, Xue-Kai Liu, Department of Clinical Laboratory, Aerospace Center Hospital, Beijing 100049, China

Song-Tao Yang, Department of Nephrology, Aerospace Center Hospital, Beijing 100049, China

Corresponding author: Xue-Kai Liu, MD, Doctor, Department of Clinical Laboratory, Aerospace Center Hospital, No. 15 Yuquan Road, Haidian District, Beijing 100049, China. 15101129780@163.com

Abstract

BACKGROUND

A man experienced multiple episodes of macroscopic hematuria following nocturnal exercise. Urinary stones and tumors were considered the two most likely causes. The patient had two hobbies: Consuming health care products in large quantities and engaging in late-night running.

CASE SUMMARY

Health care products contain a large amount of calcium phosphate, and we hypothesize that this could induce the formation of small phosphate stones. After exercise, the urinary system is abraded, resulting in bleeding. The patient was advised to stop using the health care products. Consequently, the aforementioned symptoms disappeared immediately. However, the patient resumed the above two habits one year later; correspondingly, the macroscopic hematuria reappeared.

CONCLUSION

This finding further confirmed the above inference and allowed for a new avenue to determine the cause of the patient's hematuria.

Key Words: Hematuria; Health care products; Exercise; Case report

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

Core Tip: If patients take a lot of healthcare products containing calcium phosphate, amorphous phosphate crystals may appear in urine. Once they do exercise, they may scratch the urethra and cause hematuria.

Citation: Bai MJ, Yang ST, Liu XK. Hematuria after nocturnal exercise of a man: A case report. *World J Clin Cases* 2024; 12(5): 1025-1028

URL: <https://www.wjgnet.com/2307-8960/full/v12/i5/1025.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v12.i5.1025>

INTRODUCTION

Multiple studies have shown that clinical hematuria is common after exercise[1], with 95-100% of the patients with clinical hematuria having it after exercise[2]. The degree of hematuria is related to the intensity of the exercise; for instance, contact sports can increase the risk of macroscopic hematuria. Exercise-related urological trauma is regarded as the leading cause of macroscopic hematuria, of which renal trauma accounts for 80% of cases. Here, we present the case of a patient with macroscopic hematuria who consumed a significant amount of health care products orally and favored exercise.

CASE PRESENTATION

Chief complaints

A 42-year-old man was admitted to the Emergency Department of our hospital on June 14, 2020 due to macroscopic hematuria after nocturnal exercise (Figure 1).

History of present illness

Upon reviewing the medical history, the patient experienced macroscopic hematuria three times after nocturnal exercise in the previous four years, and the hematuria was accompanied by lower abdominal pain. However, the actual cause of the disease had not been determined. Following a multidisciplinary team consultation, it was speculated that the nutcracker phenomenon, the very small stone traumatizing the mucosa, and urinary tract tumors were the three most likely causes of the patient's hematuria.

History of past illness

No special notes.

Personal and family history

No special notes.

Physical examination

No special notes.

Laboratory examinations

We conducted routine urine tests, Doppler ultrasound, computed tomography urography, and endoscopic examination of the urinary system. The results indicated that only the routine urine test was abnormal, revealing urine protein (+), occult blood (++), and a red blood cell count of 21587.0 cells/ μ L. Additionally, a significant number of amorphous phosphate crystals were observed under the microscope (Figure 1).

Imaging examinations

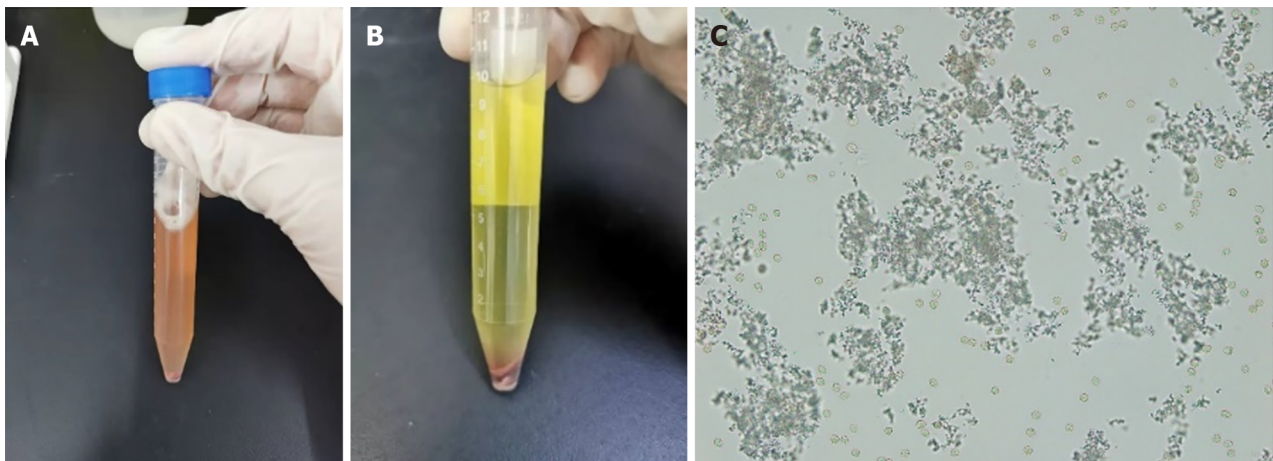
No obvious compression changes were observed in the left renal vein. The angle between the superior mesenteric artery and abdominal aorta was 41 degrees (Figure 2). At this point, hematuria caused by the nutcracker phenomenon and urologic neoplasms were essentially ruled out.

MULTIDISCIPLINARY EXPERT CONSULTATION

We re-inquired the patient again, with a focus on his lifestyle habits. The patient particularly enjoyed doing two things: taking large doses of health care products and exercising late at night. Upon reviewing the labels of the health care products, we identified calcium phosphate as one of the main components.

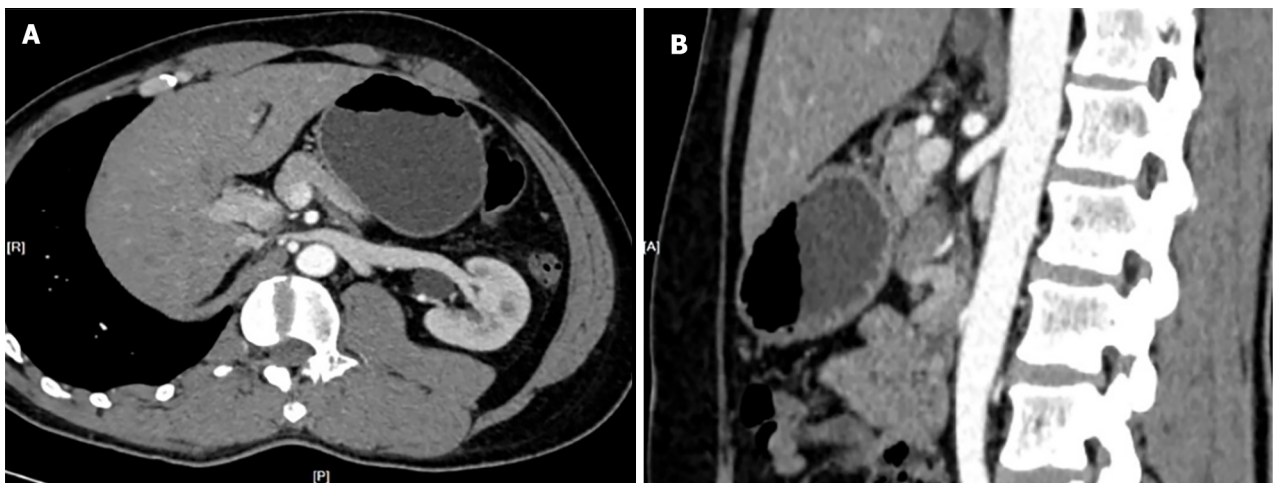
FINAL DIAGNOSIS

A hypothesis was formulated: the patient had orally consumed excessive amounts of health care products containing calcium phosphate, leading to the formation of tiny stones in the urine. These stones are not easily detected by imaging or



DOI: 10.12998/wjcc.v12.i5.1025 Copyright ©The Author(s) 2024.

Figure 1 Urine test of the patient. A: Before centrifugation; B: After centrifugation (400 g × 5 min); C: Microscopic appearance (40 × 10 times).



DOI: 10.12998/wjcc.v12.i5.1025 Copyright ©The Author(s) 2024.

Figure 2 Computed tomography urography of the patient. A: Transverse plane; B: Sagittal plane.

endoscopy. Following nocturnal exercise, these tiny stones scratch the mucosa of the urinary system, resulting in bleeding and abdominal pain.

TREATMENT

Based on the above assumptions, the patient was advised to stop using the health care products after discharge.

OUTCOME AND FOLLOW-UP

Subsequently, the patient's hematuria disappeared. However, one year later, the patient consumed the aforementioned health care products in large quantities again, and his hematuria recurred after late-night exercise. It was then confirmed that the patient's hematuria was caused by the consumption of health care products containing calcium phosphate. The patient was again advised to stop using those health care products, at which point the patient's hematuria then disappeared.

DISCUSSION

Hematuria is a common phenomenon following exercise[1]. A previous study provided evidence of the relationship

between hypercalciuria and postglomerular hematuria in children[3]. Escribano *et al*[4] also discovered that hypercalciuria can lead to recurrent macroscopic or microscopic hematuria. Through follow-up, it was observed that the occurrence of hematuria after exercise was clearly associated with the patient's use of the aforementioned health care products. Consequently, we deduced the pathogenesis of this patient: the abundance of amorphous phosphate leads to the formation of crystals in the urine. These crystals may scratch the urethra during exercise, ultimately resulting in hematuria.

CONCLUSION

In conclusion, if patients consume a significant quantity of health care products containing calcium phosphate, amorphous phosphate crystals may appear in the urine. During exercise, these crystals may scratch the urethra, leading to hematuria. Therefore, the present case provides a new avenue for determining the cause of hematuria in clinical practice.

FOOTNOTES

Author contributions: Bai MJ wrote the manuscript; Yang ST was responsible for receiving patients; Liu XK was responsible for laboratory tests related to patients.

Informed consent statement: Informed written consent was obtained from the patient for publication.

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

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

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: China

ORCID number: Xue-Kai Liu [0009-0008-2249-7528](https://orcid.org/0009-0008-2249-7528).

S-Editor: Liu JH

L-Editor: A

P-Editor: Yu HG

REFERENCES

- 1 Akiboye RD, Sharma DM. Haematuria in Sport: A Review. *Eur Urol Focus* 2019; **5**: 912-916 [PMID: [29500137](https://pubmed.ncbi.nlm.nih.gov/29500137/) DOI: [10.1016/j.euf.2018.02.008](https://doi.org/10.1016/j.euf.2018.02.008)]
- 2 Mousavi M, Sanavi S, Afshar R. Effects of continuous and intermittent trainings on exercise-induced hematuria and proteinuria in untrained adult females. *NDT Plus* 2011; **4**: 217-218 [PMID: [25984163](https://pubmed.ncbi.nlm.nih.gov/25984163/) DOI: [10.1093/ndtplus/sfr011](https://doi.org/10.1093/ndtplus/sfr011)]
- 3 Reusz G, Szabó A. Hypercalciuria and postglomerular hematuria in children. The effects of thiazide on calcium excretion, urine saturation with respect to calcium-hydrogenphosphate and hematuria. *Acta Paediatr Hung* 1990; **30**: 63-71 [PMID: [2317387](https://pubmed.ncbi.nlm.nih.gov/2317387/)]
- 4 Escribano J, Balaguer A, Roqué i Figuls M, Feliu A, Ferre N. Dietary interventions for preventing complications in idiopathic hypercalciuria. *Cochrane Database Syst Rev* 2014; **2014**: CD006022 [PMID: [24519664](https://pubmed.ncbi.nlm.nih.gov/24519664/) DOI: [10.1002/14651858.CD006022.pub4](https://doi.org/10.1002/14651858.CD006022.pub4)]



Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA

Telephone: +1-925-3991568

E-mail: office@baishideng.com

Help Desk: <https://www.f6publishing.com/helpdesk>

<https://www.wjgnet.com>

