

World Journal of *Clinical Cases*

World J Clin Cases 2022 September 16; 10(26): 9180-9549



Contents

Thrice Monthly Volume 10 Number 26 September 16, 2022

REVIEW

- 9180** Assisting individuals with diabetes in the COVID-19 pandemic period: Examining the role of religious factors and faith communities

Eseadi C, Ossai OV, Onyishi CN, Ilechukwu LC

- 9192** Role of octreotide in small bowel bleeding

Khedr A, Mahmoud EE, Attallah N, Mir M, Boike S, Rauf I, Jama AB, Mushtaq H, Surani S, Khan SA

MINIREVIEWS

- 9207** Internet of things-based health monitoring system for early detection of cardiovascular events during COVID-19 pandemic

Dami S

- 9219** Convergence mechanism of mindfulness intervention in treating attention deficit hyperactivity disorder: Clues from current evidence

Xu XP, Wang W, Wan S, Xiao CF

- 9228** Clinical presentation, management, screening and surveillance for colorectal cancer during the COVID-19 pandemic

Akbulut S, Hargura AS, Garzali IU, Aloun A, Colak C

- 9241** Early diagnostic value of liver stiffness measurement in hepatic sinusoidal obstruction syndrome induced by hematopoietic stem cell transplantation

Tan YW, Shi YC

ORIGINAL ARTICLE

Case Control Study

- 9254** Local inflammatory response to gastroesophageal reflux: Association of gene expression of inflammatory cytokines with esophageal multichannel intraluminal impedance-pH data

Morozov S, Sentsova T

Retrospective Study

- 9264** Evaluation of high-risk factors and the diagnostic value of alpha-fetoprotein in the stratification of primary liver cancer

Jiao HB, Wang W, Guo MN, Su YL, Pang DQ, Wang BL, Shi J, Wu JH

- 9276** One-half layer pancreaticojejunostomy with the rear wall of the pancreas reinforced: A valuable anastomosis technique

Wei JP, Tai S, Su ZL

- 9285** Development and validation of an epithelial-mesenchymal transition-related gene signature for predicting prognosis

Zhou DH, Du QC, Fu Z, Wang XY, Zhou L, Wang J, Hu CK, Liu S, Li JM, Ma ML, Yu H

Observational Study

- 9303** Incidence and risk factor analysis for swelling after apical microsurgery

Bi C, Xia SQ, Zhu YC, Lian XZ, Hu LJ, Rao CX, Jin HB, Shang XD, Jin FF, Li JY, Zheng P, Wang SH

CASE REPORT

- 9310** Acute carotid stent thrombosis: A case report and literature review

Zhang JB, Fan XQ, Chen J, Liu P, Ye ZD

- 9318** Congenital ovarian anomaly manifesting as extra tissue connection between the two ovaries: A case report

Choi MG, Kim JW, Kim YH, Kim AM, Kim TY, Ryu HK

- 9323** Cefoperazone-sulbactam and ornidazole for *Gardnerella vaginalis* bloodstream infection after cesarean section: A case report

Mu Y, Li JJ, Wu X, Zhou XF, Tang L, Zhou Q

- 9332** Early-onset ophthalmoplegia, cervical dyskinesia, and lower extremity weakness due to partial deletion of chromosome 16: A case report

Xu M, Jiang J, He Y, Gu WY, Jin B

- 9340** Posterior mediastinal extralobar pulmonary sequestration misdiagnosed as a neurogenic tumor: A case report

Jin HJ, Yu Y, He W, Han Y

- 9348** Unexpected difficult airway due to severe upper tracheal distortion: A case report

Zhou JW, Wang CG, Chen G, Zhou YF, Ding JF, Zhang JW

- 9354** Special epithelioid trophoblastic tumor: A case report

Wang YN, Dong Y, Wang L, Chen YH, Hu HY, Guo J, Sun L

- 9361** Intrahepatic multicystic biliary hamartoma: A case report

Wang CY, Shi FY, Huang WF, Tang Y, Li T, He GL

- 9368** ST-segment elevation myocardial infarction in Kawasaki disease: A case report and review of literature

Lee J, Seo J, Shin YH, Jang AY, Suh SY

- 9378** Bilateral hypocalcaemic cataracts due to idiopathic parathyroid insufficiency: A case report

Li Y

- 9384** Single organ hepatic artery vasculitis as an unusual cause of epigastric pain: A case report

Kaviani R, Farrell J, Dehghan N, Moosavi S

- 9390** Congenital lipoid adrenal hyperplasia with Graves' disease: A case report

Wang YJ, Liu C, Xing C, Zhang L, Xu WF, Wang HY, Wang FT

- 9398** Cytokine release syndrome complicated with rhabdomyolysis after chimeric antigen receptor T-cell therapy: A case report
Zhang L, Chen W, Wang XM, Zhang SQ
- 9404** Antiphospholipid syndrome with renal and splenic infarction after blunt trauma: A case report
Lee NA, Jeong ES, Jang HS, Park YC, Kang JH, Kim JC, Jo YG
- 9411** Uncontrolled high blood pressure under total intravenous anesthesia with propofol and remifentanyl: A case report
Jang MJ, Kim JH, Jeong HJ
- 9417** Noncirrhotic portal hypertension due to peripheral T-cell lymphoma, not otherwise specified: A case report
Wu MM, Fu WJ, Wu J, Zhu LL, Niu T, Yang R, Yao J, Lu Q, Liao XY
- 9428** Resumption of school after lockdown in COVID-19 pandemic: Three case reports
Wang KJ, Cao Y, Gao CY, Song ZQ, Zeng M, Gong HL, Wen J, Xiao S
- 9434** Complete recovery from segmental zoster paresis confirmed by magnetic resonance imaging: A case report
Park J, Lee W, Lim Y
- 9440** Imaging findings of immunoglobulin G4-related hypophysitis: A case report
Lv K, Cao X, Geng DY, Zhang J
- 9447** Systemic lupus erythematosus presenting with progressive massive ascites and CA-125 elevation indicating Tjasma syndrome? A case report
Wang JD, Yang YF, Zhang XF, Huang J
- 9454** Locally advanced cervical rhabdomyosarcoma in adults: A case report
Xu LJ, Cai J, Huang BX, Dong WH
- 9462** Rapid progressive vaccine-induced immune thrombotic thrombocytopenia with cerebral venous thrombosis after ChAdOx1 nCoV-19 (AZD1222) vaccination: A case report
Jiang SK, Chen WL, Chien C, Pan CS, Tsai ST
- 9470** Burkitt-like lymphoma with 11q aberration confirmed by needle biopsy of the liver: A case report
Yang HJ, Wang ZM
- 9478** Common carotid artery thrombosis and malignant middle cerebral artery infarction following ovarian hyperstimulation syndrome: A case report
Xu YT, Yin QQ, Guo ZR
- 9484** Postoperative radiotherapy for thymus salivary gland carcinoma: A case report
Deng R, Li NJ, Bai LL, Nie SH, Sun XW, Wang YS
- 9493** Follicular carcinoma of the thyroid with a single metastatic lesion in the lumbar spine: A case report
Chen YK, Chen YC, Lin WX, Zheng JH, Liu YY, Zou J, Cai JH, Ji ZQ, Chen LZ, Li ZY, Chen YX

- 9502** Guillain-Barré syndrome and hemophagocytic syndrome heralding the diagnosis of diffuse large B cell lymphoma: A case report
Zhou QL, Li ZK, Xu F, Liang XG, Wang XB, Su J, Tang YF
- 9510** Intravitreal injection of conbercept for bullous retinal detachment: A case report
Xiang XL, Cao YH, Jiang TW, Huang ZR
- 9518** Supratentorial hemangioblastoma at the anterior skull base: A case report
Xu ST, Cao X, Yin XY, Zhang JY, Nan J, Zhang J

META-ANALYSIS

- 9524** Certain sulfonylurea drugs increase serum free fatty acid in diabetic patients: A systematic review and meta-analysis
Yu M, Feng XY, Yao S, Wang C, Yang P

LETTER TO THE EDITOR

- 9536** Glucose substrate in the hydrogen breath test for gut microbiota determination: A recommended noninvasive test
Xie QQ, Wang JF, Zhang YF, Xu DH, Zhou B, Li TH, Li ZP
- 9539** A rare cause of acute abdomen after a Good Friday
Pante L, Brito LG, Franciscatto M, Brambilla E, Soldera J
- 9542** Obesity is associated with colitis in women but not necessarily causal relationship
Shen W, He LP, Zhou LL
- 9545** Risk stratification of primary liver cancer
Tan YW

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Youngmin Oh, MD, PhD, Associate Professor, Neurosurgeon, Department of Neurosurgery, Jeonbuk National University Medical School/Hospital, Jeonju 54907, Jeollabukdo, South Korea. timoh@jbnu.ac.kr

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, Scopus, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The 2022 Edition of Journal Citation Reports® cites the 2021 impact factor (IF) for WJCC as 1.534; IF without journal self cites: 1.491; 5-year IF: 1.599; Journal Citation Indicator: 0.28; Ranking: 135 among 172 journals in medicine, general and internal; and Quartile category: Q4. The WJCC's CiteScore for 2021 is 1.2 and Scopus CiteScore rank 2021: General Medicine is 443/826.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Hua-Ge Yin; Production Department Director: Xu Guo; 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, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku

EDITORIAL BOARD MEMBERS

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

PUBLICATION DATE

September 16, 2022

COPYRIGHT

© 2022 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>



Single organ hepatic artery vasculitis as an unusual cause of epigastric pain: A case report

Rojin Kaviani, Jessica Farrell, Natasha Dehghan, Sarvee Moosavi

Specialty type: Gastroenterology and hepatology

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): C, C
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Al-Ani RM, Iraq; Dilek ON, Turkey

Received: April 11, 2022

Peer-review started: April 11, 2022

First decision: June 8, 2022

Revised: July 7, 2022

Accepted: August 1, 2022

Article in press: August 1, 2022

Published online: September 16, 2022



Rojin Kaviani, Internal Medicine, University of British Columbia, Vancouver V5Z 1M9, British Columbia, Canada

Jessica Farrell, Division of Radiology, Providence Health Care, Vancouver V5T 3N4, British Columbia, Canada

Natasha Dehghan, Division of Rheumatology, Providence Health Care, Vancouver V5T 3N4, British Columbia, Canada

Sarvee Moosavi, Division of Gastroenterology, University of British Columbia, Vancouver V6Z 2K5, British Columbia, Canada

Corresponding author: Rojin Kaviani, BSc, MD, Doctor, Internal Medicine, University of British Columbia, Gordon and Leslie Diamond Health Care Centre, 3rd Floor-2775 Laurel Street, Vancouver V5Z 1M9, British Columbia, Canada. rojin.kaviani@vch.ca

Abstract

BACKGROUND

Single-organ vasculitis (SOV) is characterized by inflammation of a blood vessel, affecting one organ, such as the skin, genitourinary system, or the aorta without systemic features. Gastrointestinal SOV is rare, with hepatic artery involvement reported only in two prior published cases. Herein, we presented a case of isolated hepatic artery vasculitis presenting after Pfizer-BioNTech mRNA coronavirus disease 2019 (COVID-19) vaccination.

CASE SUMMARY

A 50-year-old woman with hypertension presented to our Emergency Department with recurrent diffuse abdominal pain that localized to the epigastrium and emesis without diarrhea that began eight days after the second dose of the Pfizer-BioNTech COVID-19 vaccine. Blood work revealed an elevated C-reactive protein (CRP) of 19 mg/L (normal < 4.8 mg/L), alkaline phosphatase 150 U/L (normal 25-105 U/L), gamma-glutamyl transferase (GGT) 45 U/L (normal < 43 U/L) and elevated immunoglobulins (Ig) G 18.4 g/L (normal 7-16 g/L) and IgA 4.4 g/L (normal 0.7-4 g/L). An abdominal computed tomography revealed findings in keeping with hepatic artery vasculitis. A detailed review of her history and examination did not reveal infectious or systemic autoimmune causes of her presentation. An extensive autoimmune panel was unremarkable. COVID-19 polymerase chain reaction nasopharyngeal swab, human immunodeficiency virus, viral hepatitis and *Helicobacter pylori* serology were negative. At six months,

the patient's symptoms, and blood work spontaneously normalized.

CONCLUSION

High clinical suspicion of SOV is required for diagnosis in patients with acute abdominal pain and dyspepsia.

Key Words: Single organ vasculitis; Hepatic artery; gastrointestinal vasculitis; COVID-19 vaccine; Hepatic artery vasculitis; Case report

©The Author(s) 2022. Published by Baishideng Publishing Group Inc. All rights reserved.

Core Tip: Single organ vasculitis (SOV) of the gastrointestinal (GI) tract is uncommon with hepatic artery involvement rarely reported. It presents with abdominal pain and often without changes in inflammatory or other biomarkers. It is diagnosed radiographically or incidentally *via* surgical specimens. mRNA coronavirus disease 2019 (COVID-19) vaccines have been stipulated to contribute to inflammatory side-effects such as myocarditis, and autoimmune hepatitis. The diagnosis of GI SOV should be considered as a potential cause of acute abdominal pain following COVID-19 mRNA vaccination.

Citation: Kaviani R, Farrell J, Dehghan N, Moosavi S. Single organ hepatic artery vasculitis as an unusual cause of epigastric pain: A case report. *World J Clin Cases* 2022; 10(26): 9384-9389

URL: <https://www.wjgnet.com/2307-8960/full/v10/i26/9384.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v10.i26.9384>

INTRODUCTION

Single organ vasculitis (SOV) of the gastrointestinal (GI) tract is a rare manifestation of blood vessel inflammation. It can affect small, medium, and large-sized vessels and a variety of organs[1,2]. SOV can be further subdivided by the extent it affects an organ and thereby described as focal, multifocal, or diffuse[2]. One study comparing localized necrotizing arteritis to classic polyarteritis nodosa found that the former demonstrated localized fibrinoid necrosis in the intima and inner media of a vessel wall, whereas the latter affected the outer media and adventitia[2]. Histologically, SOV appears as granulomatous or non-granulomatous. Granulomatous vasculitis involves pleomorphic inflammation typically made of lymphocyte and macrophage aggregates with or without giant cells[1]. In non-granulomatous vasculitis, inflammatory infiltrates are predominantly made up of lymphocytes or neutrophils and may exhibit features of vessel wall necrosis[1]. Though, SOV histological findings can be indistinguishable from systemic vasculitis.

GI SOV most commonly affects the gallbladder, small intestine, and appendix. It presents similarly to systemic vasculitis with GI manifestations of abdominal pain, nausea, vomiting, and bleeding. In contrast, SOV often presents with normal inflammatory and autoimmune markers[1,3-6]. GI SOV is diagnosed radiographically or incidentally on surgical specimens. Up to 26% of SOV cases may progress to a systemic process, thereby at least six months of follow-up is required to exclude systemic involvement[1,2,7]. Single organ hepatic artery vasculitis is rare, reported only in case reports[7,8]. Herein, we discussed a case of isolated hepatic artery vasculitis presenting as dyspepsia, eight days following the second dose of the Pfizer-BioNTech coronavirus disease 2019 (COVID-19) vaccine.

CASE PRESENTATION

Chief complaints

A 50-year-old woman presented to the emergency department with recurrent abdominal pain following the second dose of the Pfizer-BioNTech COVID-19 vaccine.

History of present illness

The patient developed two days of diffuse abdominal pain, chills, and emesis without diarrhea or fever, eight days following her COVID-19 vaccination. The patient had tolerated the first COVID-19 vaccine dose six weeks beforehand with no side-effects. The patient had no changes to her bowel movements, no sick contacts, and no toxic ingestions including alcohol, raw fish, or undercooked meats. There were no symptoms of an upper respiratory tract infection. The autoimmune review of systems was negative. The patient did not use herbal or over-the-counter supplements and is a lifelong non-smoker.

She presented to the emergency department following two days of symptoms and was diagnosed with dyspepsia and received a prescription of pantoprazole 40mg once daily by mouth. Her pain improved transiently, but she represented one week later with sudden onset of sharp, epigastric pain without nausea, diarrhea, fever, rigors, or rash.

History of past illness

The patient has a history of an ectopic kidney and hypertension treated with nifedipine. Her surgical history includes a remote appendectomy. In her childhood, she had an episode of jaundice with hepatitis that had not recurred. The patient had a one-year history of non-specific intermittent lower abdominal pain with a normal computed tomographic (CT) of the abdomen performed three weeks prior to presentation.

Personal and family history

The patient denied any family history of inflammatory and autoimmune disorders.

Physical examination

On examination, the patient was afebrile with a blood pressure of 174/90, heart rate of 87 beats per minute, and oxygen saturation in room air of 97% with 18 breaths per minute. She had right-sided abdominal tenderness without rigidity, guarding or rebound tenderness with a negative murphy's sign. The cardiorespiratory exam was normal. There were no features of joint swelling or rash.

Laboratory examinations

Blood work revealed an elevated C-reactive protein (CRP) at 19 mg/L (normal < 4.8 mg/L), Alkaline phosphatase 150 U/L (normal 30-105 U/L) and gamma-glutamyl transferase at 45 U/L (normal < 43 U/L). The rest of the liver enzymes and bilirubin were normal: ALT 17 U/L (normal 5-45 U/L), AST 40 U/L (normal 10-40 U/L), Lipase 41 U/L (normal < 55 U/L), and total Bilirubin 7 umol/L (normal < 20 umol/L). A complete blood count was normal with an international normalized ratio of 0.9 (normal 0.9-1.2). Metabolic investigations showed a normal lactate dehydrogenase, thyroid-stimulating hormone 1.61 mU/L (normal 0.32-5.04 mU/L), albumin 49 g/L (normal 35-48 g/L), normal renal function and electrolytes. Infectious work-up with urine analysis, screening serology for human immunodeficiency virus, Hepatitis B and C, and *Helicobacter pylori* were negative. COVID-19 polymerase chain reaction nasopharyngeal swab was negative.

Imaging examinations

Initial imaging with an abdominal doppler ultrasound revealed a prominence of the vessels at the porta hepatis with possible hepatic artery wall thickening. A computed tomography (CT) image of the abdomen, obtained on the same day, revealed interval development of a thick rind of soft tissue thickening surrounding the hepatic artery with severely focal distal narrowing and beaded intrahepatic arterial branches. These findings were new from her normal CT scan three weeks prior and were radiographically consistent with hepatic artery vasculitis (Figure 1).

FURTHER DIAGNOSTIC WORK-UP

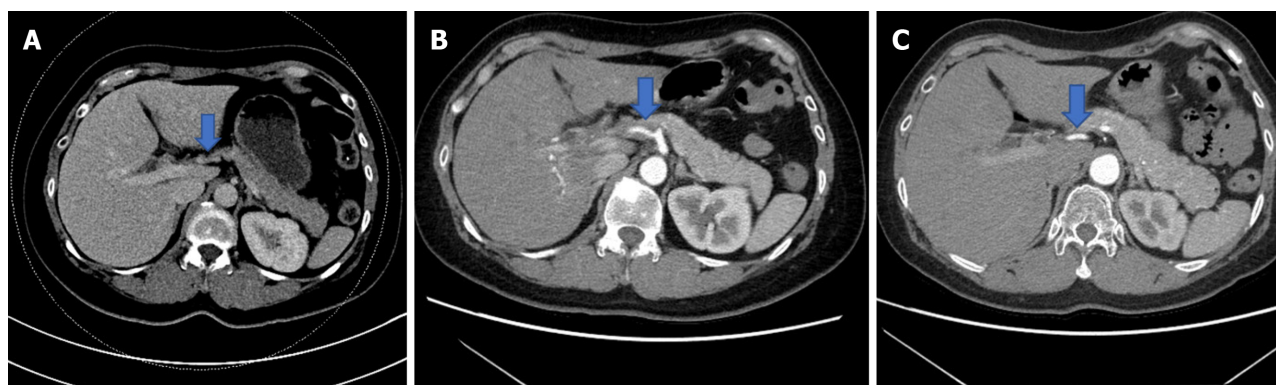
Autoimmune workup was remarkable for an elevated immunoglobulin (Ig) panel: IgG 18.4 g/L (normal 7-16 g/L) and IgA 4.4 g/L (normal 0.7-4 g/L) were elevated; IgM was normal at 0.72 g/L (normal 0.4-2.3 g/L). The rest of the autoimmune panel was normal: antinuclear antibody 0.2 IU/ml (normal < 0.7 IU/ml), antineutrophil cytoplasmic antibodies < 0.2 U (normal < 1.0 U), undetected cryoglobulins, complement C3 1.88 g/L (normal 0.90-1.90 g/L), complement C4 0.43 g/L (normal 0.13-0.46 g/L), rheumatoid factor < 10 kU/L (normal < 12 kU/L), and negative extractable nuclear antibody panel including Sm, RNP, SS-A, SS-B, Scl-70 and Jo-1.

FINAL DIAGNOSIS

The final diagnosis of the presented case is hepatic artery vasculitis.

TREATMENT

The patient continued her pantoprazole prescription. The patient was followed clinically without immunosuppression given her stability, mild elevation in CRP, and intact liver function.



DOI: 10.12998/wjcc.v10.i26.9384 Copyright ©The Author(s) 2022.

Figure 1 Axial computed tomography images showing the hepatic artery. A: Portal venous phase computed tomographic (CT) three weeks prior to emergency department visit with normal-appearing hepatic artery; B: Subsequent arterial phase CT shows a ring of soft tissue surrounding the proximal segment of the hepatic artery; C: Arterial contrast CT at two-month follow-up with complete resolution of soft tissue thickening.

OUTCOME AND FOLLOW-UP

Her symptoms resolved spontaneously one week following her second emergency department presentation. At two-month follow-up, a repeat abdominal CT scan showed complete resolution of her vasculitis with normalization of CRP. The GGT normalized at 2 mo and Alkaline phosphatase normalized by 6 mo. Immunoglobulins remained elevated at 6-month follow-up: IgG 18.2 g/L (normal 7-16 g/L), IgA 4.61 g/L (normal 0.7-4 g/L). The patient remained clinically asymptomatic without systemic features of vasculitis.

DISCUSSION

We report a rare case of hepatic artery SOV presenting eight days after the second dose of a COVID-19 mRNA vaccine based on congruent radiographic assessment, elevated inflammatory markers and cholestatic liver enzymes.

In a ten-year study review of 130000 GI histological specimens collected from biopsies and surgical resections, only 29 (0.02%) patients with vasculitis were identified[6]. Of these 29 patients, eight had SOV in the gallbladder, small and large bowels. Notably, there were no hepatic manifestation[6]. Mali *et al*[7] reported a case of hepatic artery vasculitis diagnosed on imaging and without systemic involvement at six-month follow-up. In this case, inflammatory and autoimmune markers remained normal, and the patient was treated successfully with pulse steroids and tapering prednisone[7].

Interestingly, our patient's symptoms and inflammatory markers resolved without immunosuppression, but there remains uncertainty on the natural history of SOV. The pattern of inflammatory markers in SOV remains unclear and can sometimes be normal at presentation making it a challenging diagnosis. In one case-series of eighteen patients with histologically or radiographically confirmed SOV, ten patients were treated with prednisone and three received pulse steroids. Two of the cases were managed with surgical resection[5].

In our case, given the history of hypertension, segmental arterial mediolysis (SAM), a rare non-inflammatory, non-atherosclerotic vasculopathy, characterized by lysis of the medial arterial wall layer, was considered. SAM can present similarly, often without an elevation in inflammatory markers and affecting the hepatic artery[9-11]. However SAM does not typically present with stenosis and wall thickening radiographically. Infectious causes to the patient's presentations were considered, however, in the absence of other pertinent findings, such as diarrhea, persistent emesis, and history of toxin exposure coupled with negative viral investigations made infectious etiologies less likely. The diagnosis of SOV is supported by the characteristic radiological findings in combination with CRP and liver enzyme elevation in the absence of infectious exposure. A systemic process like vasculitis or granulomatous disease was also unlikely in our case, given the patient's continued absence of systemic symptoms at the six-month follow-up.

This case raises questions as to whether the patient's presentation was coincidental with concomitant dyspepsia that responded to pantoprazole, or if the COVID-19 vaccine was causative or rather temporally correlated with the hepatic artery vasculitis. COVID-19 infection has been linked to the development and reactivation of autoimmune diseases.¹¹ It is postulated that COVID-19 mRNA vaccines can act similarly to the infection through molecular mimicry[12]. Autoimmune hepatitis and systemic vasculitis cases following COVID-19 vaccines have been reported, suggesting an associated inflammatory process[13-19]. Reports on post-vaccine myocarditis and pericarditis have shown that Inflam-

matory responses typically occur three to four days after vaccination but this can range from hours up to 3 mo post-vaccine[20,21]. These presentations can also occur after the second vaccine dose in the absence of reactions to the first dose. Further long-term vaccination safety data is required to draw any conclusions regarding the possible gastrointestinal inflammatory effects associated with COVID-19 mRNA vaccination.

CONCLUSION

Single organ vasculitis is rare with hepatic artery involvement reported only in case reports. We outlined a case of hepatic artery vasculitis, presenting eight days following the second dose of the Pfizer-BioNTech COVID-19 vaccine. Further studies are needed to conclude the temporal association, if any, of SOV with COVID-19 vaccines. Close follow-up of SOV is required to exclude progression to systemic vasculitis. Severe cases may require treatment with immunosuppression to reduce morbidity and mortality.

FOOTNOTES

Author contributions: Kaviani R, Moosavi S, Dehghan N and Farrell J contributed to data acquisition, drafting and revision of the final version; Kaviani R wrote the paper; Moosavi S generated the case and final approval.

Informed consent statement: Informed patient consent was obtained for publication of the case.

Conflict-of-interest statement: 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: Canada

ORCID number: Rojin Kaviani 0000-0002-9928-1687.

S-Editor: Wang LL

L-Editor: A

P-Editor: Wang LL

REFERENCES

- 1 **Hernández-Rodríguez J**, Hoffman GS. Updating single-organ vasculitis. *Curr Opin Rheumatol* 2012; **24**: 38-45 [PMID: 22089096 DOI: 10.1097/BOR.0b013e32834d8482]
- 2 **Atisha-Fregoso Y**, Hinojosa-Azaola A, Alcocer-Varela J. Localized, single-organ vasculitis: clinical presentation and management. *Clin Rheumatol* 2013; **32**: 1-6 [PMID: 22918493 DOI: 10.1007/s10067-012-2069-2]
- 3 **Pagnoux C**, Mahr A, Cohen P, Guillevin L. Presentation and outcome of gastrointestinal involvement in systemic necrotizing vasculitides: analysis of 62 patients with polyarteritis nodosa, microscopic polyangiitis, Wegener granulomatosis, Churg-Strauss syndrome, or rheumatoid arthritis-associated vasculitis. *Medicine (Baltimore)* 2005; **84**: 115-128 [PMID: 15758841 DOI: 10.1097/01.md.0000158825.87055.0b]
- 4 **Soowamber M**, Weizman AV, Pagnoux C. Gastrointestinal aspects of vasculitides. *Nat Rev Gastroenterol Hepatol* 2017; **14**: 185-194 [PMID: 27876769 DOI: 10.1038/nrgastro.2016.179]
- 5 **Salvarani C**, Calamia KT, Crowson CS, Miller DV, Broadwell AW, Hunder GG, Matteson EL, Warrington KJ. Localized vasculitis of the gastrointestinal tract: a case series. *Rheumatology (Oxford)* 2010; **49**: 1326-1335 [PMID: 20360040 DOI: 10.1093/rheumatology/keq093]
- 6 **Zhang X**, Furth EE, Tondon R. Vasculitis Involving the Gastrointestinal System Is Often Incidental but Critically Important. *Am J Clin Pathol* 2020; **154**: 536-552 [PMID: 32789454 DOI: 10.1093/AJCP/AQAA083]
- 7 **Mali P**, Muduganti SR, Goldberg J. Rare Case of Vasculitis of the Hepatic Artery. *Clin Med Res* 2015; **13**: 169-172 [PMID: 26387709 DOI: 10.3121/cmr.2015.1290]
- 8 **Thietart S**, Mekinian A, Delorme S, Lequoy M, Gobert D, Arrivé L, Fain O. [Vasculitis of the hepatic artery: A case of a single-organ vasculitis]. *Rev Med Interne* 2017; **38**: 847-849 [PMID: 28784561 DOI: 10.1016/j.revmed.2017.06.023.]

- 9 **Skeik N**, Olson SL, Hari G, Pavia ML. Segmental arterial mediolysis (SAM): Systematic review and analysis of 143 cases. *Vasc Med* 2019; **24**: 549-563 [PMID: [31793853](#) DOI: [10.1177/1358863X19873410](#)]
- 10 **Naidu SG**, Menias CO, Oklu R, Hines RS, Alhalabi K, Makar G, Shamoun FE, Henkin S, McBane RD. Segmental Arterial Mediolyis: Abdominal Imaging of and Disease Course in 111 Patients. *AJR Am J Roentgenol* 2018; **210**: 899-905 [PMID: [29446669](#) DOI: [10.2214/AJR.17.18309](#)]
- 11 **Costello F**, Dalakas MC. Cranial neuropathies and COVID-19: Neurotropism and autoimmunity. *Neurology* 2020; **95**: 195-196 [PMID: [32487714](#) DOI: [10.1016/j.autrev.2020.102597](#)]
- 12 **Velikova T**, Georgiev T. SARS-CoV-2 vaccines and autoimmune diseases amidst the COVID-19 crisis. *Rheumatol Int* 2021; **41**: 509-518 [PMID: [33515320](#) DOI: [10.1007/s00296-021-04792-9](#)]
- 13 **Bril F**, Al Diffalha S, Dean M, Fetting DM. Autoimmune hepatitis developing after coronavirus disease 2019 (COVID-19) vaccine: Causality or casualty? *J Hepatol* 2021; **75**: 222-224 [PMID: [33862041](#) DOI: [10.1016/j.jhep.2021.04.003](#)]
- 14 **Vuille-Lessard É**, Montani M, Bosch J, Semmo N. Autoimmune hepatitis triggered by SARS-CoV-2 vaccination. *J Autoimmun* 2021; **123**: 102710 [PMID: [34332438](#) DOI: [10.1016/j.jaut.2021.102710](#)]
- 15 **McShane C**, Kiat C, Rigby J, Crosbie Ó. The mRNA COVID-19 vaccine-A rare trigger of autoimmune hepatitis? *J Hepatol* 2021; **75**: 1252-1254 [PMID: [34245804](#) DOI: [10.1016/j.jhep.2021.06.044](#)]
- 16 **Rocco A**, Sgamato C, Compare D, Nardone G. Autoimmune hepatitis following SARS-CoV-2 vaccine: May not be a causality. *J Hepatol* 2021; **75**: 728-729 [PMID: [34116081](#) DOI: [10.1016/j.jhep.2021.05.038](#)]
- 17 **Erlor A**, Fiedler J, Koch A, Heldmann F, Schütz A. Leukocytoclastic Vasculitis After Vaccination With a SARS-CoV-2 Vaccine. *Arthritis Rheumatol* 2021; **73**: 2188 [PMID: [34196469](#) DOI: [10.1002/art.41910](#)]
- 18 **Shakoor MT**, Birkenbach MP, Lynch M. ANCA-Associated Vasculitis Following Pfizer-BioNTech COVID-19 Vaccine. *Am J Kidney Dis* 2021; **78**: 611-613 [PMID: [34280507](#) DOI: [10.1053/j.ajkd.2021.06.016](#)]
- 19 **Obeid M**, Fenwick C, Pantaleo G. Reactivation of IgA vasculitis after COVID-19 vaccination. *Lancet Rheumatol* 2021; **3**: e617 [PMID: [34250509](#) DOI: [10.1016/S2665-9913\(21\)00211-3](#)]
- 20 **Fazlollahi A**, Zahmatyar M, Noori M, Nejadghaderi SA, Sullman MJM, Shekariz-Foumani R, Kolahi AA, Singh K, Safiri S. Cardiac complications following mRNA COVID-19 vaccines: A systematic review of case reports and case series. *Rev Med Virol* 2021; e2318 [PMID: [34921468](#) DOI: [10.1002/rmv.2318](#)]
- 21 **Barda N**, Dagan N, Ben-Shlomo Y, Kepten E, Waxman J, Ohana R, Hernán MA, Lipsitch M, Kohane I, Netzer D, Reis BY, Balicer RD. Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting. *N Engl J Med* 2021; **385**: 1078-1090 [PMID: [34432976](#) DOI: [10.1056/nejmoa2110475](#)]



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

Telephone: +1-925-3991568

E-mail: bpgoffice@wjgnet.com

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

<https://www.wjgnet.com>

