

World Journal of *Clinical Cases*

World J Clin Cases 2020 October 6; 8(19): 4280-4687



Contents

Semimonthly Volume 8 Number 19 October 6, 2020

OPINION REVIEW

- 4280 Role of monoclonal antibody drugs in the treatment of COVID-19
Ucciferri C, Vecchiet J, Falasca K

MINIREVIEWS

- 4286 Review of simulation model for education of point-of-care ultrasound using easy-to-make tools
Shin KC, Ha YR, Lee SJ, Ahn JH
- 4303 Liver injury in COVID-19: A minireview
Zhao JN, Fan Y, Wu SD

ORIGINAL ARTICLE

Case Control Study

- 4311 Transanal minimally invasive surgery vs endoscopic mucosal resection for rectal benign tumors and rectal carcinoids: A retrospective analysis
Shen JM, Zhao JY, Ye T, Gong LF, Wang HP, Chen WJ, Cai YK
- 4320 Impact of *mTOR* gene polymorphisms and gene-tea interaction on susceptibility to tuberculosis
Wang M, Ma SJ, Wu XY, Zhang X, Abesig J, Xiao ZH, Huang X, Yan HP, Wang J, Chen MS, Tan HZ

Retrospective Cohort Study

- 4331 Establishment and validation of a nomogram to predict the risk of ovarian metastasis in gastric cancer: Based on a large cohort
Li SQ, Zhang KC, Li JY, Liang WQ, Gao YH, Qiao Z, Xi HQ, Chen L

Retrospective Study

- 4342 Predictive factors for early clinical response in community-onset *Escherichia coli* urinary tract infection and effects of initial antibiotic treatment on early clinical response
Kim YJ, Lee JM, Lee JH
- 4349 Managing acute appendicitis during the COVID-19 pandemic in Jiaying, China
Zhou Y, Cen LS
- 4360 Clinical application of combined detection of SARS-CoV-2-specific antibody and nucleic acid
Meng QB, Peng JJ, Wei X, Yang JY, Li PC, Qu ZW, Xiong YF, Wu GJ, Hu ZM, Yu JC, Su W
- 4370 Prolonged prothrombin time at admission predicts poor clinical outcome in COVID-19 patients
Wang L, He WB, Yu XM, Hu DL, Jiang H

- 4380** Percutaneous radiofrequency ablation is superior to hepatic resection in patients with small hepatocellular carcinoma

Zhang YH, Su B, Sun P, Li RM, Peng XC, Cai J

- 4388** Clinical study on the surgical treatment of atypical Lisfranc joint complex injury

Li X, Jia LS, Li A, Xie X, Cui J, Li GL

- 4400** Application of medial column classification in treatment of intra-articular calcaneal fractures

Zheng G, Xia F, Yang S, Cui J

Clinical Trials Study

- 4410** Optimal hang time of enteral formula at standard room temperature and high temperature

Lakananurak N, Nalinthassanai N, Suansawang W, Panarat P

META-ANALYSIS

- 4416** Meta-analysis reveals an association between acute pancreatitis and the risk of pancreatic cancer

Liu J, Wang Y, Yu Y

SCIENTOMETRICS

- 4431** Global analysis of daily new COVID-19 cases reveals many static-phase countries including the United States potentially with unstoppable epidemic

Long C, Fu XM, Fu ZF

CASE REPORT

- 4443** Left atrial appendage aneurysm: A case report

Belov DV, Moskalev VI, Garbuzenko DV, Arefyev NO

- 4450** Twenty-year survival after iterative surgery for metastatic renal cell carcinoma: A case report and review of literature

De Raffele E, Mirarchi M, Casadei R, Ricci C, Brunocilla E, Minni F

- 4466** Primary rhabdomyosarcoma: An extremely rare and aggressive variant of male breast cancer

Satală CB, Jung I, Bara TJ, Simu P, Simu I, Vlad M, Szodorai R, Gurzu S

- 4475** Bladder stones in a closed diverticulum caused by *Schistosoma mansoni*: A case report

Alkhamees MA

- 4481** Cutaneous ciliated cyst on the anterior neck in young women: A case report

Kim YH, Lee J

- 4488** Extremely rare case of successful treatment of metastatic ovarian undifferentiated carcinoma with high-dose combination cytotoxic chemotherapy: A case report

Kim HB, Lee HJ, Hong R, Park SG

- 4494** Acute amnesia during pregnancy due to bilateral fornix infarction: A case report
Cho MJ, Shin DI, Han MK, Yum KS
- 4499** Ascaris-mimicking common bile duct stone: A case report
Choi SY, Jo HE, Lee YN, Lee JE, Lee MH, Lim S, Yi BH
- 4505** Eight-year follow-up of locally advanced lymphoepithelioma-like carcinoma at upper urinary tract: A case report
Yang CH, Weng WC, Lin YS, Huang LH, Lu CH, Hsu CY, Ou YC, Tung MC
- 4512** Spontaneous resolution of idiopathic intestinal obstruction after pneumonia: A case report
Zhang BQ, Dai XY, Ye QY, Chang L, Wang ZW, Li XQ, Li YN
- 4521** Successful pregnancy after protective hemodialysis for chronic kidney disease: A case report
Wang ML, He YD, Yang HX, Chen Q
- 4527** Rapid remission of refractory synovitis, acne, pustulosis, hyperostosis, and osteitis syndrome in response to the Janus kinase inhibitor tofacitinib: A case report
Li B, Li GW, Xue L, Chen YY
- 4535** Percutaneous fixation of neonatal humeral physeal fracture: A case report and review of the literature
Tan W, Wang FH, Yao JH, Wu WP, Li YB, Ji YL, Qian YP
- 4544** Severe fundus lesions induced by ocular jellyfish stings: A case report
Zheng XY, Cheng DJ, Lian LH, Zhang RT, Yu XY
- 4550** Application of ozonated water for treatment of gastro-thoracic fistula after comprehensive esophageal squamous cell carcinoma therapy: A case report
Wu DD, Hao KN, Chen XJ, Li XM, He XF
- 4558** Germinomas of the basal ganglia and thalamus: Four case reports
Huang ZC, Dong Q, Song EP, Chen ZJ, Zhang JH, Hou B, Lu ZQ, Qin F
- 4565** Gastrointestinal bleeding caused by jejunal angiosarcoma: A case report
Hui YY, Zhu LP, Yang B, Zhang ZY, Zhang YJ, Chen X, Wang BM
- 4572** High expression of squamous cell carcinoma antigen in poorly differentiated adenocarcinoma of the stomach: A case report
Wang L, Huang L, Xi L, Zhang SC, Zhang JX
- 4579** Therapy-related acute promyelocytic leukemia with FMS-like tyrosine kinase 3-internal tandem duplication mutation in solitary bone plasmacytoma: A case report
Hong LL, Sheng XF, Zhuang HF
- 4588** Metastasis of esophageal squamous cell carcinoma to the thyroid gland with widespread nodal involvement: A case report
Zhang X, Gu X, Li JG, Hu XJ

- 4595** Severe hyperlipemia-induced pseudoerythrocytosis - Implication for misdiagnosis and blood transfusion: A case report and literature review
Zhao XC, Ju B, Wei N, Ding J, Meng FJ, Zhao HG
- 4603** Novel brachytherapy drainage tube loaded with double 125I strands for hilar cholangiocarcinoma: A case report
Lei QY, Jiao DC, Han XW
- 4609** Resorption of upwardly displaced lumbar disk herniation after nonsurgical treatment: A case report
Wang Y, Liao SC, Dai GG, Jiang L
- 4615** Primary hepatic myelolipoma: A case report and review of the literature
Li KY, Wei AL, Li A
- 4624** Endoscopic palliative resection of a giant 26-cm esophageal tumor: A case report
Li Y, Guo LJ, Ma YC, Ye LS, Hu B
- 4633** Solitary hepatic lymphangioma mimicking liver malignancy: A case report and literature review
Long X, Zhang L, Cheng Q, Chen Q, Chen XP
- 4644** Intraosseous venous malformation of the maxilla after enucleation of a hemophilic pseudotumor: A case report
Cai X, Yu JJ, Tian H, Shan ZF, Liu XY, Jia J
- 4652** Intravesically instilled gemcitabine-induced lung injury in a patient with invasive urothelial carcinoma: A case report
Zhou XM, Wu C, Gu X
- 4660** Bochdalek hernia masquerading as severe acute pancreatitis during the third trimester of pregnancy: A case report
Zou YZ, Yang JP, Zhou XJ, Li K, Li XM, Song CH
- 4667** Localized primary gastric amyloidosis: Three case reports
Liu XM, Di LJ, Zhu JX, Wu XL, Li HP, Wu HC, Tuo BG
- 4676** Displacement of peritoneal end of a shunt tube to pleural cavity: A case report
Liu J, Guo M
- 4681** Parathyroid adenoma combined with a rib tumor as the primary disease: A case report
Han L, Zhu XF

ABOUT COVER

Peer-reviewer of *World Journal of Clinical Cases*, Prof. Adrián Ángel Inchauspe, obtained his MD in 1986 from La Plata National University (Argentina), where he remained as Professor of Surgery. Study abroad, at the Aachen and Tübingen Universities in Germany in 1991, led to his certification in laparoscopic surgery, and at the Louis Pasteur University in Strasbourg France, led to his being awarded the Argentine National Invention Award in 1998 for his graduate work in tele-surgery. He currently serves as teacher in the Argentine Acupuncture Society, as Invited Foreigner Professor at the China National Academy of Sciences and Hainan Medical University, and as editorial member and reviewer for many internationally renowned journals. (L-Editor: Filipodia)

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 indexed in Science Citation Index Expanded (also known as SciSearch®), Journal Citation Reports/Science Edition, PubMed, and PubMed Central. The 2020 Edition of Journal Citation Reports® cites the 2019 impact factor (IF) for *WJCC* as 1.013; IF without journal self cites: 0.991; Ranking: 120 among 165 journals in medicine, general and internal; and Quartile category: Q3.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Yan-Xia Xing; Production Department Director: Yun-Xiaojuan Wu; Editorial Office Director: Jin-Lai Wang.

NAME OF JOURNAL

World Journal of Clinical Cases

ISSN

ISSN 2307-8960 (online)

LAUNCH DATE

April 16, 2013

FREQUENCY

Semimonthly

EDITORS-IN-CHIEF

Dennis A Bloomfield, Sandro Vento, Bao-Gan Peng

EDITORIAL BOARD MEMBERS

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

PUBLICATION DATE

October 6, 2020

COPYRIGHT

© 2020 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>



Ascaris-mimicking common bile duct stone: A case report

Seo-Youn Choi, Ha Eun Jo, Yun Nah Lee, Ji Eun Lee, Min Hee Lee, Sanghyeok Lim, Boem Ha Yi

ORCID number: Seo-Youn Choi 0000-0002-2434-8779; Ha Eun Jo 0000-0003-4543-4462; Yun Nah Lee 0000-0001-5588-784X; Ji Eun Lee 0000-0002-4442-4441; Min Hee Lee 0000-0001-9198-0814; Sanghyeok Lim 0000-0002-1607-3744; Boem Ha Yi 0000-0003-2917-260X.

Author contributions: Jo HE and Choi SY conceptualized the case report; Lee YN performed investigation; Lee JE, Lee MH, and Lim S curated data; Jo HE and Choi SY wrote original draft; Lee YN, Lee JE, Lee MH, Lim S, and Yi BH have reviewed and edited the original draft; All authors have approved the final manuscript.

Supported by Soonchunhyang University Research Fund, No. 20200019.

Informed consent statement: This case report was approved by the institutional review board at our institution. The need for informed consent was waived.

Conflict-of-interest statement: The authors state 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

Seo-Youn Choi, Ha Eun Jo, Ji Eun Lee, Min Hee Lee, Sanghyeok Lim, Boem Ha Yi, Radiology, Soonchunhyang University Hospital, Bucheon, Bucheon 14584, South Korea

Yun Nah Lee, Digestive disease center and research institute, Soonchunhyang University Hospital, Bucheon, Bucheon 14584, South Korea

Corresponding author: Seo-Youn Choi, MD, PhD, Assistant Professor, Radiology, Soonchunhyang University Hospital, Bucheon, 170 Jomaru-ro, Kyeong-gi do, Bucheon Si, Republic of Korea, Bucheon 14584, South Korea. sychoi@schmc.ac.kr

Abstract

BACKGROUND

In most cases, it is not difficult to differentiate common bile duct (CBD) stone from Ascaris infection because they are different disease entities and have different imaging findings. The two diseases usually demonstrate unique characteristic findings on computed tomography or magnetic resonance cholangiopancreatography. However, we report a rare case from our experience in which a CBD stone mimicked and was misdiagnosed as Ascaris.

CASE SUMMARY

A 72-year-old male presented with elevated serum liver enzymes. Computed tomography showed a hyper-attenuated, elongated lesion in the CBD lumen and associated biliary inflammation. Magnetic resonance cholangiopancreatography and endoscopic retrograde cholangiopancreatography revealed a linear filling defect in the bile duct. Moreover, elongated echogenic material with a central hypoechogenic area was seen on endoscopic ultrasound. Although the imaging findings caused us to suspect infection with the nematode Ascaris, the lesion was revealed to be a dark-brown-colored CBD stone through endoscopic extraction.

CONCLUSION

We report a rare case of a CBD stone that mimicked Ascaris. We also review the literature for side-by-side comparisons of the imaging features of CBD stones and ascariasis.

Key Words: Case report; Common bile duct; Gallstones; Ascaris; Ascariasis; Multidetector computed tomography; Magnetic resonance cholangiopancreatography

©The Author(s) 2020. Published by Baishideng Publishing Group Inc. All rights reserved.

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: <http://creativecommons.org/licenses/by-nc/4.0/>

Manuscript source: Unsolicited manuscript

Received: July 1, 2020

Peer-review started: June 30, 2020

First decision: July 24, 2020

Revised: August 4, 2020

Accepted: August 26, 2020

Article in press: August 26, 2020

Published online: October 6, 2020

P-Reviewer: Geramizadeh B

S-Editor: Yan JP

L-Editor: A

P-Editor: Liu JH



Core Tip: Although common bile duct stone and *Ascaris* are not commonly discussed as differential diagnosis each other, they can be misunderstood in case of the elongated common bile duct stone. We should be able to learn the differential points through this case.

Citation: Choi SY, Jo HE, Lee YN, Lee JE, Lee MH, Lim S, Yi BH. Ascaris-mimicking common bile duct stone: A case report. *World J Clin Cases* 2020; 8(19): 4499-4504

URL: <https://www.wjgnet.com/2307-8960/full/v8/i19/4499.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v8.i19.4499>

INTRODUCTION

Cholelithiasis, or common bile duct (CBD) stones, is a relatively common disease, and 10% to 15% of people with gallstones also have stones in the bile duct^[1,2]. Biliary stones usually have angulated shapes or lamellated appearances and commonly accompany biliary inflammation. CBD stones are not difficult to diagnose when they manifest as high-density lesions in the distal CBD lumen without enhancement on computed tomography (CT) and when they demonstrate biliary filling defects with relatively low signal intensity on T2-weighted images of magnetic resonance (MR) cholangiography^[2].

However, *Ascaris* infection can complicate diagnosis of cholelithiasis. Although its incidence has been decreasing, ascariasis is still an important cause of pancreatobiliary disease in Asia, Africa, and South America. The worms are usually found in the intestinal lumen, but they occasionally move into the bile duct and gallbladder through the ampulla of Vater^[3]. Diagnosis of hepatobiliary ascariasis can be made by visualizing the larvae in the biliary tree, as they may manifest as a cylindrical filling defect with or without movement on imaging studies^[4].

Usually, there is little confusion in differentiation of CBD stone and *Ascaris* since they are different disease entities with different imaging manifestations. However, we report a case of a CBD stone that mimicked and was misdiagnosed as *Ascaris lumbricoides*.

CASE PRESENTATION

Chief complaints

A 72-year-old male visited our outpatient clinic with elevated liver enzymes.

History of present illness

He did not complain of any symptoms.

History of past illness

He had been previously admitted to our hospital for a liver abscess about 10 years prior, when he had visited our outpatient clinic.

Physical examination

There were no remarkable signs, and his vital signs were normal.

Laboratory examinations

Laboratory values revealed conspicuous elevation of alkaline phosphatase and gamma-glutamyl transpeptidase (γ-GT) in addition to mild elevation of serum amylase.

Imaging examinations

On CT (**Figure 1A** and **B**), a hyper-attenuated, thin, linear-shaped lesion was found in the lumen of the distal CBD. In addition, dilated intrahepatic bile ducts and periductal enhancement on the arterial phase suggested inflammatory changes of the intrahepatic bile duct. MR cholangiopancreatography (MRCP; **Figure 1C** and **D**) revealed a thin, linear filling defect in the lumen of the dilated CBD that had low signal intensity on

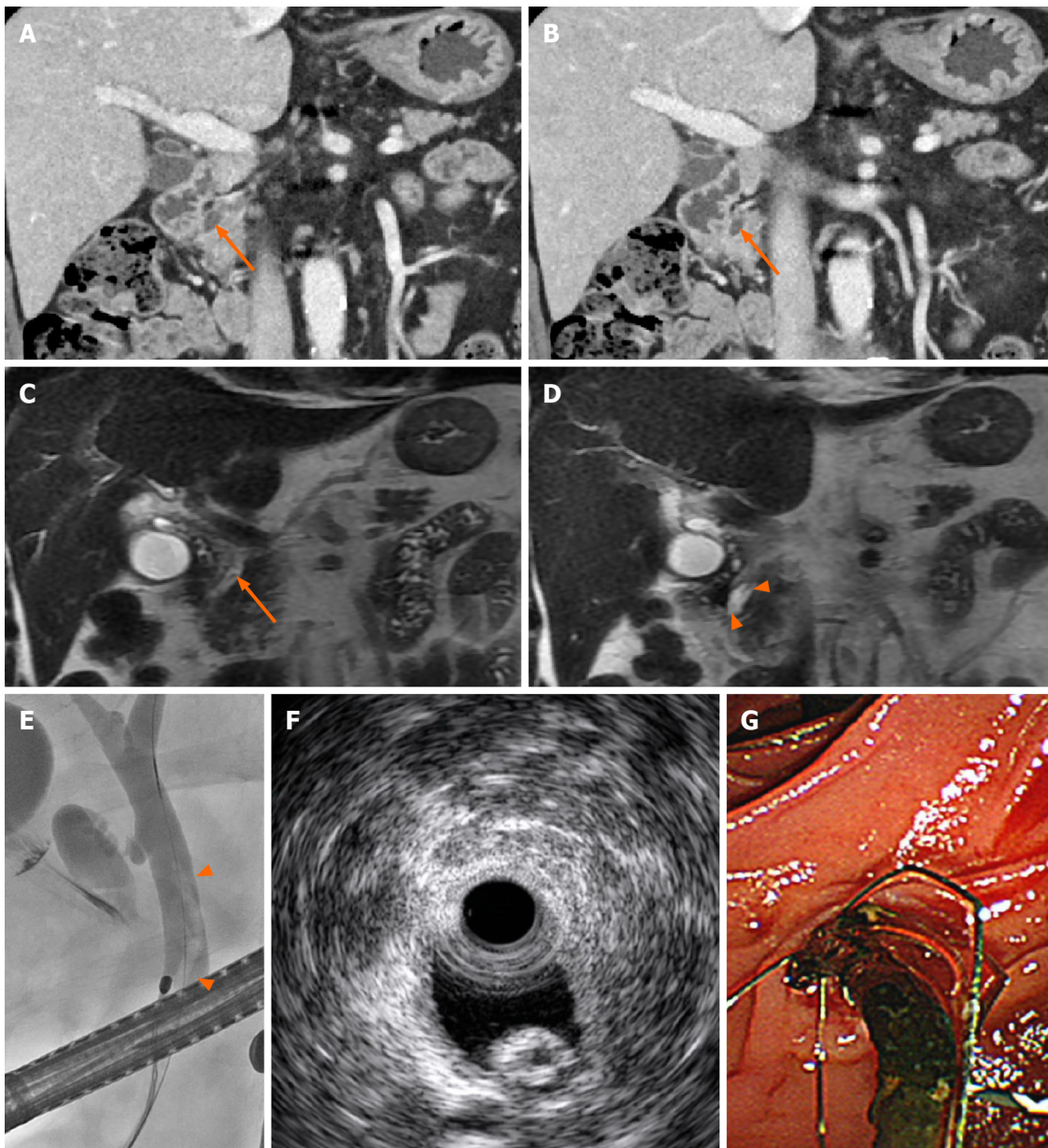


Figure 1 A 72-year-old male with a distal common bile duct stone mimicking *Ascaris*. A and B: Coronal reformatted images of contrast-enhanced computed tomography showed a hyperattenuated, elongated lesion inside the distal common bile duct (CBD) lumen (arrows); C and D: A T2-weighted coronal image revealed a linear filling defect in the distal CBD lumen with mild ductal dilatation, findings that mimic an *Ascaris* worm; E and F: An elongated tubular filling defect was seen on endoscopic retrograde cholangiopancreatography, and a hyperechoic lesion with a central hypoechoic area was seen on endoscopic ultrasound; G: A dark-brown-colored CBD stone was discovered through endoscopic removal.

T2-weighted images, and the findings were sufficient to diagnose a parasitic larva, such as *Ascaris*. Subsequently, endoscopic retrograde cholangiopancreatography (ERCP) demonstrated a tubular filling defect in the dilated CBD (Figure 1E), and a linear, hyperechoic lesion with a central low-echoic area was seen on endoscopic ultrasound (EUS) (Figure 1F).

MULTIDISCIPLINARY EXPERT CONSULTATION

After removal by an endoscopic procedure, the lesion was found to be a tubular-shaped CBD stone (Figure 1G).

FINAL DIAGNOSIS

The final diagnosis was CBD stone.

TREATMENT

The patient was treated with antibiotics for three days and was discharged without any complications (Figure 2).

OUTCOME AND FOLLOW-UP

Subsequent follow-up blood tests conducted at an outpatient clinic showed gradual decrease in the abnormal liver function test values.

DISCUSSION

Unless it is radiolucent, a CBD stone is not difficult to diagnose on CT. Biliary stones can appear in various attenuations on CT, and only about 20% show high attenuation^[5]. Most biliary stones are either round or amorphous-shaped. In addition to the imaging findings from the biliary stone itself, low attenuated bile surrounding the stone and associated ductal dilatation or narrowing can improve the likelihood of correct diagnosis of biliary stone^[5]. In addition, a signal void in the CBD or a fluid level with low signal intensity in the dependent portion of the CBD on MR imaging can suggest a CBD stone^[6]. Even though ERCP is an invasive procedure, it has the benefit of simultaneous diagnosis and treatment^[7]. Moreover, EUS has excellent diagnostic ability when it is performed with ERCP, and a biliary stone can be characteristically seen as a hyperechoic lesion accompanying a posterior acoustic shadow in the CBD on EUS^[8,9].

On the other hand, *Ascaris* can appear as an elongated, high-density structure in the biliary tree on CT, although this modality is only used as complementary for diagnosis^[6]. On MR cholangiogram, *Ascaris* demonstrates a “double-tube” appearance, a hypointense tubular defect inside the CBD with central hyperintense material representing the fluid-filled gut of the worm^[10]. On ERCP, the worm is seen as an intraductal filling defect with motility in the bile duct^[4,11]. The difference between CBD stone and *Ascaris* is even more obvious on EUS, in which the parasite appears as a spherical-shaped hyperechogenic lesion without posterior acoustic shadowing^[12].

To the best of our knowledge, there has been only one case report of CBD stone mimicking *Ascaris lumbricoides*, and the report only described the sonographic findings^[13]. Thus, it is not thought to be difficult to distinguish CBD stone from *Ascaris* infestation on imaging or clinical findings. Although they share radiologic findings of a non-enhancing high-density lesion on CT and a filling defect on T2-weighted images on MR, these two diseases rarely are part of the same differential diagnoses because their typical presentations are different. However, if these typical imaging features are not seen, differential diagnosis for tubular structures in the CBD could be confusing. Although we had never previously experienced an elongated-shaped CBD stone, we did experience an ascariasis patient who manifested similar imaging findings to the present case (Supplementary Figure 1).

In the present case, not only did the stone appear very similarly shaped to an *Ascaris* worm on CT and MR cholangiography, but it was also mistaken for *Ascaris* on EUS due to its elongated shape with a central hypoechoic area, rather than the nodular or angular appearance of a typical CBD stone. However, *Ascaris* could have been distinguished from a CBD stone in the present case by the relatively longer (15-49 cm) and thicker (2-6 mm in females)^[13] body size of *Ascaris* compared to CBD stones, even if no motility was observed^[14].

Although this was a rare case of CBD stone mimicking biliary ascariasis, it serves as a reminder that patients complaining of biliary colic or imaging finding of an elongated filling defect occupying the CBD should not be diagnosed by shape alone, and a CBD stone can mimic biliary *Ascaris*.

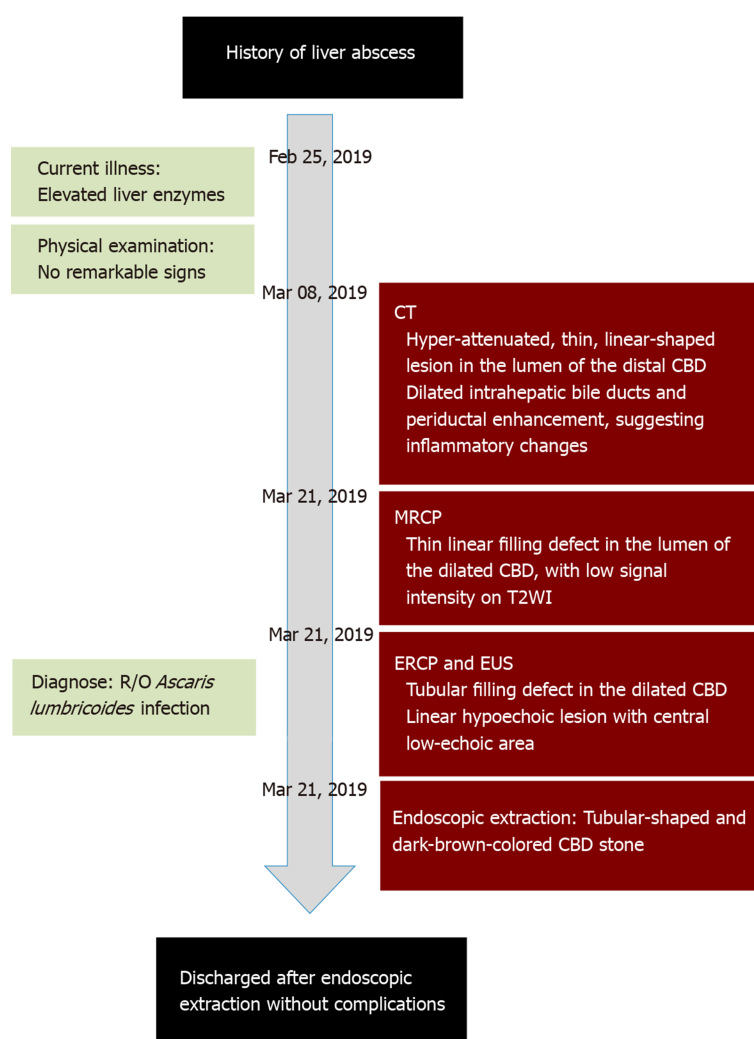


Figure 2 Timeline of the patient's illness. CT: Computed tomography; CBD: Common bile duct; MRCP: Magnetic resonance cholangiopancreatography; ERCP: Endoscopic retrograde cholangiopancreatography; EUS: Endoscopic ultrasound.

CONCLUSION

Although CBD stone and *Ascaris* are not commonly discussed in the same differential diagnosis, they can be confused in cases with an elongated CBD stone.

REFERENCES

- 1 Tazuma S. Gallstone disease: Epidemiology, pathogenesis, and classification of biliary stones (common bile duct and intrahepatic). *Best Pract Res Clin Gastroenterol* 2006; **20**: 1075-1083 [PMID: 17127189 DOI: 10.1016/j.bpg.2006.05.009]
- 2 Yeh BM, Liu PS, Soto JA, Corvera CA, Hussain HK. MR imaging and CT of the biliary tract. *Radiographics* 2009; **29**: 1669-1688 [PMID: 19959515 DOI: 10.1148/rg.296095514]
- 3 Lim JH, Kim SY, Park CM. Parasitic diseases of the biliary tract. *AJR Am J Roentgenol* 2007; **188**: 1596-1603 [PMID: 17515382 DOI: 10.2214/AJR.06.1172]
- 4 Das AK. Hepatic and biliary ascariasis. *J Glob Infect Dis* 2014; **6**: 65-72 [PMID: 24926166 DOI: 10.4103/0974-777X.132042]
- 5 Miller FH, Hwang CM, Gabriel H, Goodhart LA, Omar AJ, Parsons WG 3rd. Contrast-enhanced helical CT of choledocholithiasis. *AJR Am J Roentgenol* 2003; **181**: 125-130 [PMID: 12818842 DOI: 10.2214/ajr.181.1.1810125]
- 6 Das CJ, Kumar J, Debnath J, Chaudhry A. Imaging of ascariasis. *Australas Radiol* 2007; **51**: 500-506 [PMID: 17958683 DOI: 10.1111/j.1440-1673.2007.01887.x]
- 7 Fulcher AS. MRCP and ERCP in the diagnosis of common bile duct stones. *Gastrointest Endosc* 2002; **56**: S178-S182 [PMID: 12447264 DOI: 10.1067/mge.2002.129029]
- 8 Petrov MS, Savides TJ. Systematic review of endoscopic ultrasonography versus endoscopic retrograde cholangiopancreatography for suspected choledocholithiasis. *Br J Surg* 2009; **96**: 967-974 [PMID: 19644975 DOI: 10.1002/bjs.6667]
- 9 Kondo S, Isayama H, Akahane M, Toda N, Sasahira N, Nakai Y, Yamamoto N, Hirano K, Komatsu Y, Tada

- M, Yoshida H, Kawabe T, Ohtomo K, Omata M. Detection of common bile duct stones: comparison between endoscopic ultrasonography, magnetic resonance cholangiography, and helical-computed-tomographic cholangiography. *Eur J Radiol* 2005; **54**: 271-275 [PMID: [15837409](#) DOI: [10.1016/j.ejrad.2004.07.007](#)]
- 10 Ng KK, Wong HF, Kong MS, Chiu LC, Tan CF, Wan YL. Biliary ascariasis: CT, MR cholangiopancreatography, and navigator endoscopic appearance--report of a case of acute biliary obstruction. *Abdom Imaging* 1999; **24**: 470-472 [PMID: [10475930](#) DOI: [10.1007/s002619900542](#)]
- 11 Misra SP, Awasthy DN, Dwivedi M. Choledocholithiasis mimicking *Ascaris lumbricoides*: problem in ultrasound differential diagnosis. *Trop Doct* 1999; **29**: 110-111 [PMID: [10418307](#) DOI: [10.1177/004947559902900219](#)]
- 12 Sharma M, Somani P. EUS of pancreatic ascariasis. *Arab J Gastroenterol* 2018; **19**: 47-48 [PMID: [29523472](#) DOI: [10.1016/j.ajg.2018.02.011](#)]
- 13 Roberts LS, Janovy, Jr J. Foundations of parasitology. Foundations of parasitology. 8th ed. Boston, MA: McGraw-Hill, 2008
- 14 Dold C, Holland CV. *Ascaris* and ascariasis. *Microbes Infect* 2011; **13**: 632-637 [PMID: [20934531](#) DOI: [10.1016/j.micinf.2010.09.012](#)]



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>

