## Contents

**MINIREVIEWS**

5934  Development of clustered regularly interspaced short palindromic repeats/CRISPR-associated technology for potential clinical applications  
*Huang YY, Zhang XY, Zhu P, Ji L*

5946  Strategies and challenges in treatment of varicose veins and venous insufficiency  
*Gao RD, Qian SY, Wang HH, Liu YS, Ren SY*

5957  Diabetes mellitus susceptibility with varied diseased phenotypes and its comparison with phenome interactome networks  
*Rout M, Kour B, Vuree S, Lulu SS, Medicherla KM, Suravajhala P*

**ORIGINAL ARTICLE**

### Clinical and Translational Research

5965  Identification of potential key molecules and signaling pathways for psoriasis based on weighted gene co-expression network analysis  
*Shu X, Chen XX, Kang XD, Ran M, Wang YL, Zhao ZK, Li CX*

5984  Construction and validation of a novel prediction system for detection of overall survival in lung cancer patients  
*Zhong C, Liang Y, Wang Q, Tan HW, Liang Y*

### Case Control Study

6001  Effectiveness and postoperative rehabilitation of one-stage combined anterior-posterior surgery for severe thoracolumbar fractures with spinal cord injury  
*Zhang B, Wang JC, Jiang YZ, Song QP, An Y*

### Retrospective Study

6009  Prostate sclerosing adenopathy: A clinicopathological and immunohistochemical study of twelve patients  
*Feng RL, Tao YP, Tan ZY, Fu S, Wang HF*

6021  Value of magnetic resonance diffusion combined with perfusion imaging techniques for diagnosing potentially malignant breast lesions  
*Zhang H, Zhang XY, Wang Y*

6032  Scar-centered dilation in the treatment of large keloids  
*Wu M, Gu JY, Duan R, Wei RX, Xie F*

6039  Application of a novel computer-assisted surgery system in percutaneous nephrolithotomy: A controlled study  
### Contents

**World Journal of Clinical Cases**  
**Thrice Monthly Volume 10 Number 18 June 26, 2022**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6050</td>
<td>Influences of etiology and endoscopic appearance on the long-term outcomes of gastric antral vascular ectasia</td>
<td>Kwon HJ, Lee SH, Cho JH</td>
</tr>
<tr>
<td>6060</td>
<td>Evaluation of the clinical efficacy and safety of TST33 mega hemorrhoidectomy for severe prolapsed hemorrhoids</td>
<td>Tao L, Wei J, Ding XF, Ji LJ</td>
</tr>
<tr>
<td>6069</td>
<td>Sequential chemotherapy and icotinib as first-line treatment for advanced epidermal growth factor receptor-mutated non-small cell lung cancer</td>
<td>Sun SJ, Han JD, Liu W, Wu ZY, Zhao X, Yan X, Jiao SC, Fang J</td>
</tr>
<tr>
<td>6082</td>
<td>Impact of preoperative carbohydrate loading on gastric volume in patients with type 2 diabetes</td>
<td>Lin XQ, Chen YR, Chen X, Cai YP, Lin JX, Xu DM, Zheng XC</td>
</tr>
<tr>
<td>6091</td>
<td>Efficacy and safety of adalimumab in comparison to infliximab for Crohn's disease: A systematic review and meta-analysis</td>
<td>Yang HH, Huang Y, Zhou XC, Wang RN</td>
</tr>
<tr>
<td>6105</td>
<td>Successful treatment of acute relapse of chronic eosinophilic pneumonia with benralizumab and without corticosteroids: A case report</td>
<td>Izhakian S, Pertzov B, Rosengarten D, Kramer MR</td>
</tr>
<tr>
<td>6119</td>
<td>Hepatic epithelioid hemangioendothelioma after thirteen years' follow-up: A case report and review of literature</td>
<td>Mo WF, Tong YL</td>
</tr>
<tr>
<td>6128</td>
<td>Effectiveness and safety of ultrasound-guided intramuscular lauromacrogol injection combined with hysteroscopy in cervical pregnancy treatment: A case report</td>
<td>Ye JP, Gao Y, Lu LW, Ye YJ</td>
</tr>
<tr>
<td>6136</td>
<td>Carcinoma located in a right-sided sigmoid colon: A case report</td>
<td>Lyu LJ, Yao WW</td>
</tr>
</tbody>
</table>
Contents

Thrice Monthly Volume 10 Number 18 June 26, 2022

6148 Overlapping syndrome of recurrent anti-N-methyl-D-aspartate receptor encephalitis and anti-myelin oligodendrocyte glycoprotein demyelinating diseases: A case report
Yin XJ, Zhang LF, Bao LH, Feng ZC, Chen JH, Li BX, Zhang J

6156 Liver transplantation for late-onset ornithine transcarbamylase deficiency: A case report

6163 Disseminated strongyloidiasis in a patient with rheumatoid arthritis: A case report
Zheng JH, Xue LY

6168 CYP27A1 mutation in a case of cerebrotendinous xanthomatosis: A case report
Li ZR, Zhou YL, Jin Q, Xie YY, Meng HM

6175 Postoperative multiple metastasis of clear cell sarcoma-like tumor of the gastrointestinal tract in adolescent: A case report
Huang WP, Li LM, Gao JB

6184 Toripalimab combined with targeted therapy and chemotherapy achieves pathologic complete response in gastric carcinoma: A case report

6192 Presentation of Boerhaave's syndrome as an upper-esophageal perforation associated with a right-sided pleural effusion: A case report
Tan N, Luo YH, Li GC, Chen YL, Tan W, Xiang YH, Ge L, Yao D, Zhang MH

6198 Camrelizumab-induced anaphylactic shock in an esophageal squamous cell carcinoma patient: A case report and review of literature

6205 Nontraumatic convexal subarachnoid hemorrhage: A case report
Chen HL, Li B, Chen C, Fan XX, Ma WB

6211 Growth hormone ameliorates hepatopulmonary syndrome and nonalcoholic steatohepatitis secondary to hypopituitarism in a child: A case report
Zhang XY, Yuan K, Fang YL, Wang CL

6218 Vancomycin dosing in an obese patient with acute renal failure: A case report and review of literature
Xu KY, Li D, Hu ZJ, Zhao CC, Bai J, Du WL

6227 Insulinoma after sleeve gastrectomy: A case report
Lobaton-Ginsberg M, Sotelo-González P, Ramirez-Renteria C, Juárez-Aguilar FG, Ferreira-Hermosillo A

6234 Primary intestinal lymphangiectasia presenting as limb convulsions: A case report
Cao Y, Feng XH, Ni HX

6241 Esophagogastic junctional neuroendocrine tumor with adenocarcinoma: A case report
Kong ZZ, Zhang L
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>6247</td>
<td>Foreign body granuloma in the tongue differentiated from tongue cancer</td>
<td>Jiang ZH, Xu R, Xia L</td>
</tr>
<tr>
<td>6261</td>
<td>Management of type IIIb dens invaginatus using a combination of root canal treatment, intentional replantation, and surgical therapy: A case report</td>
<td>Zhang J, Li N, Li WL, Zheng XY, Li S</td>
</tr>
<tr>
<td>6277</td>
<td>De novo brain arteriovenous malformation formation and development: A case report</td>
<td>Huang H, Wang X, Guo AN, Li W, Duan RH, Fang JH, Yin B, Li DD</td>
</tr>
<tr>
<td>6283</td>
<td>Coinfection of Streptococcus suis and Nocardia asiatica in the human central nervous system: A case report</td>
<td>Chen YJ, Xue XH</td>
</tr>
<tr>
<td>6289</td>
<td>Dilated left ventricle with multiple outpouchings — a severe congenital ventricular diverticulum or left-dominant arrhythmogenic cardiomyopathy: A case report</td>
<td>Zhang X, Ye RY, Chen XP</td>
</tr>
<tr>
<td>6307</td>
<td>Thyroid follicular renal cell carcinoma excluding thyroid metastases: A case report</td>
<td>Wu SC, Li XY, Liao BJ, Xie K, Chen WM</td>
</tr>
<tr>
<td>6314</td>
<td>Appendiceal bleeding: A case report</td>
<td>Zhou SY, Guo MD, Ye XH</td>
</tr>
<tr>
<td>6319</td>
<td>Spontaneous healing after conservative treatment of isolated grade IV pancreatic duct disruption caused by trauma: A case report</td>
<td>Mei MZ, Ren YF, Mou YP, Wang YY, Jin WW, Lu C, Zhu QC</td>
</tr>
<tr>
<td>6325</td>
<td>Pneumonia and seizures due to hypereosinophilic syndrome—organ damage and eosinophilia without synchronisation: A case report</td>
<td>Ishida T, Murayama T, Kobayashi S</td>
</tr>
</tbody>
</table>

**LETTER TO THE EDITOR**

6338 Stem cells as an option for the treatment of COVID-19

Cuevas-González MV, Cuevas-González JC
ABOUT COVER
Editorial Board Member of World Journal of Clinical Cases, Cristina Tudoran, PhD, Assistant Professor, Department VII, Internal Medicine II, Discipline of Cardiology, "Victor Babes" University of Medicine and Pharmacy Timisoara, Timisoara 300041, Timis, Romania. cristina13.tudoran@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 indexed in Science Citation Index Expanded (also known as SciSearch®), Journal Citation Reports/Science Edition, Scopus, PubMed, and PubMed Central. The 2021 Edition of Journal Citation Reports® cites the 2020 impact factor (IF) for WJCC as 1.337; IF without journal self cites: 1.301; 5-year IF: 1.742; Journal Citation Indicator: 0.33; Ranking: 119 among 169 journals in medicine, general and internal; and Quartile category: Q3. The WJCC’s CiteScore for 2020 is 0.8 and Scopus CiteScore rank 2020: General Medicine is 493/793.

RESPONSIBLE EDITORS FOR THIS ISSUE
Production Editor: Ying-Yi Yuan; Production Department Director: Xu Guo; Editorial Office Director: Jin-Lei Wang.
Appendiceal bleeding: A case report

Sheng-Yue Zhou, Mao-Dong Guo, Xiao-Hua Ye

Abstract

BACKGROUND
Acute lower gastrointestinal bleeding is common in clinical practice, and the colon is responsible for the majority of cases. However, appendiceal bleeding is an extremely rare cause. Appendiceal bleeding due to vascular diseases, such as angiodysplasia and Dieulafoy’s lesion, may result in massive lower gastrointestinal bleeding. Appendectomy is a reliable and effective option for treatment.

CASE SUMMARY
A 32-year-old male presented to our hospital with hematochezia that had lasted for 6 h, with approximately 600-800 mL bloody stools and loss of consciousness for a few seconds. Persistent bleeding from the orifice of the appendix was observed by colonoscopy. Following the new diagnosis of appendiceal bleeding, the patient was treated by an emergency laparoscopic appendectomy. Finally, the patient was pathologically diagnosed with appendiceal Dieulafoy’s lesion. The patient was uneventfully discharged, and follow-up 2 wk later showed no evidence of rebleeding.

CONCLUSION
Although appendiceal bleeding is a rare cause of acute lower gastrointestinal bleeding, clinicians should consider it during differential diagnosis.

Key Words: Appendix; Gastrointestinal hematochezia; Lower gastrointestinal tract; Vascular malformations; Case report

©The Author(s) 2022. Published by Baishideng Publishing Group Inc. All rights reserved.
Core Tip: Appendiceal bleeding is a rare cause of acute lower gastrointestinal bleeding. Appendiceal bleeding due to vascular diseases, such as angiodysplasia and Dieulafoy’s lesion, may result in massive lower gastrointestinal bleeding. Appendectomy is a reliable and effective option for treatment. We report a case of lower gastrointestinal bleeding due to appendiceal Dieulafoy’s lesion. The patient recovered well after an emergency laparoscopic appendectomy. Clinicians should consider appendiceal bleeding during differential diagnosis.

Citation: Zhou SY, Guo MD, Ye XH. Appendiceal bleeding: A case report. *World J Clin Cases* 2022; 10(18): 6314-6318
URL: https://www.wjgnet.com/2307-8960/full/v10/i18/6314.htm
DOI: https://dx.doi.org/10.12998/wjcc.v10.i18.6314

INTRODUCTION

The common causes of lower gastrointestinal bleeding are mostly known to be diseases of the colon, rectum, and terminal ileum[1]. However, appendiceal bleeding as the origin is extremely rare. Diverticulum, angiodysplasia, inflammation, and neoplasm are the usual etiologies for appendiceal bleeding[2,3]. Vascular diseases, such as angiodysplasia and Dieulafoy’s lesion, are one of the most common causes of massive bleeding and sometimes can be life-threatening[1,4]. We report herein a case of lower gastrointestinal bleeding due to appendiceal Dieulafoy’s lesion, with a literature review.

CASE PRESENTATION

Chief complaints

A 32-year-old male presented to the emergency department of our hospital with hematochezia that had lasted for 6 h.

History of present illness

The patient reported having experienced approximately 600-800 mL bloody stools before presentation to the hospital. The patient also reported having experienced loss of consciousness for a few seconds. No other gastrointestinal symptoms, such as nausea, vomiting, or abdominal pain, were experienced during the process. The patient denied past history of hematochezia.

History of past illness

The patient had been previously diagnosed with hemorrhoids and hypertension, but was taking no medications.

Personal and family history

The personal and family history-taking revealed no information relevant to the current case.

Physical examination

The patient’s temperature was 36.5 °C, heart rate was 95 beats per minute, respiratory rate was 20 breaths per minute, blood pressure (measured with electronic cuff) was 147/105 mmHg, and oxygen saturation in room air was 99%. The physical examination showed an anemic appearance, without any other pathological signs.

Laboratory examinations

The laboratory tests showed that hemoglobin was 102 g/L (normal range: 130-175 g/L), revealing a mild anemia. Other routine relevant examinations, such as platelet counts and for markers of coagulation function, and liver and renal function, yielded normal findings. Unfortunately, the patient passed bloody stools again 1 d after conservative treatment in our department, with his hemoglobin level dropping to 86 g/L.

Imaging examinations

An emergency colonoscopy was performed, and extended up to the terminal ileum. During the procedure, blood clots in the cecum were first washed out and we were then able to observe a large quantity of fresh blood oozing out of the appendiceal orifice (Figure 1A). In addition, contrast-enhanced abdominal computed tomography (CT) scan showed a high-density area in the appendix without any...
Figure 1 Appendiceal bleeding caused by Dieulafoy’s lesion. A: Colonoscopy showed active bleeding from the appendiceal orifice after blood clots were flushed out of the ileocecal junction; B: Enhanced abdominal computed tomography showed a high-density area in the appendix, revealing the possibility of appendiceal bleeding (arrow); C: Macroscopic pathological observation showed a vessel stump on the mucosa of the appendix (arrow); D: Microscopic pathological examination showed a caliber-persistent artery in the submucosa of the appendix (arrow).

signs of acute appendicitis, tumor, or diverticulum (Figure 1B).

**FINAL DIAGNOSIS**

Bleeding of the appendix.

**TREATMENT**

We suspected that the source of bleeding was the appendix, which prompted an emergency laparoscopic appendectomy. During that surgery, no signs of acute appendicitis or diverticulitis were observed; however, a large amount of blood clots was observed through the longitudinal incision of the appendix. A vessel stump was also found on the mucosa of the appendix (Figure 1C). Pathologically, a caliber-persistent artery was detected near the vessel stump of the mucosa surface, corresponding to Dieulafoy’s lesion within the appendix (Figure 1D).

**OUTCOME AND FOLLOW-UP**

The patient had no recurrent hematochezia or melena, and was discharged from the hospital 6 d after the surgery. Follow-up 2 wk later showed no evidence of rebleeding.

**DISCUSSION**

Acute lower gastrointestinal bleeding is commonly encountered in clinical practice, with colon being responsible for the majority of cases[1]. Appendiceal bleeding, on the other hand, is an extremely rare cause, and as such may be missed or misdiagnosed. Although lower gastrointestinal bleeding is generally less severe than upper gastrointestinal bleeding - with spontaneous cessation of the bleeding occurring in most cases, appendiceal bleeding attributed to vascular diseases, such as angiodysplasia and Dieulafoy’s lesion, may result in massive lower gastrointestinal bleeding and sometimes can be life-threatening[1,4]. As a clinician, having an awareness of appendiceal bleeding is significant. A literature search of relevant articles on the PubMed/MEDLINE database, from January 1977 to November 2021, was conducted, using the key words of “appendix bleeding” or “appendix hemorrhage”. Six articles regarding appendiceal bleeding due to vascular diseases were identified (Table 1)[5-10].
The average age of the included cases was 50.3 years (range: 21-76 years). In terms of sex, 5 males and 2 females are reported on herein. Similar to previous reports, the most likely cause of hospitalization was massive hematochezia, rather than melena[3]. Pathological analyses showed the main vascular factors of appendiceal bleeding to be angiodysplasia and Dieulafoy’s lesion. Dieulafoy’s lesion is caused by an abnormal artery that fails to diminish to the minute size of the mucosal capillary microvasculature [11]. The most common location of Dieulafoy’s lesion is the stomach. Others have reported Dieulafoy’s lesion in the esophagus, duodenum, small intestine, colon, and rectum[12-15]; however, an appendiceal Dieulafoy’s lesion is extremely rare. Among the included publications, there were only 2 cases of appendiceal bleeding due to Dieulafoy’s lesion published in English language[5,7], with ours being the third case.

Several modalities, such as colonoscopy, contrast-enhanced abdominal CT, and angiography, can be applied in diagnosing appendiceal bleeding[2,3,9]. In our case, colonoscopy directly revealed the active bleeding from the appendiceal orifice. For such cases, emergency colonoscopy for acute lower gastrointestinal bleeding should be utilized, at least to the terminal ileum. In addition, the orifice of the appendix should be carefully observed. Contrast-enhanced abdominal CT is useful in evaluating diverticulum, neoplasm, or acute inflammation. Although mesenteric artery angiography requires bleeding of more than 0.5 mL/min, vessel embolization is feasible in controlling acute bleeding[9].

A reliable and effective choice of treatment for appendiceal bleeding is appendectomy[2]. Other attempts, including vessel embolization and endoscopic therapy (therapeutic barium enema and endoclips), have been reported as successful for controlling bleeding[9,16,17]; however, the risk of acute appendicitis and rebleeding after vessel embolization and endoscopic therapy are unmanageable, and the patient may still require an appendectomy[9,17]. Studies for the feasibility of vessel embolization and endoscopic therapy continue to be warranted.

CONCLUSION

We present a treatment experience of appendiceal bleeding caused by Dieulafoy’s lesion. Although appendiceal bleeding is a rare cause of acute lower gastrointestinal bleeding, clinicians should consider it during differential diagnosis.

FOOTNOTES

Author contributions: Zhou SY designed and drafted the manuscript; Guo MD performed the colonoscopy; Ye XH revised the manuscript for important intellectual content; and all authors approved the final version of the manuscript.

Supported by the Natural Science Foundation of Zhejiang Province, No. LQ19H030003; and Key Project of Jinhua Science and Technology Bureau, No. 2018A32022.

Informed consent statement: Consent was obtained from the patient for publication of this report and any accompanying images.
Appendiceal bleeding

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: China

ORCID number: Sheng-Yue Zhou 0000-0001-5808-2545; Mao-Dong Guo 0000-0003-4016-0773; Xiao-Hua Ye 0000-0002-8358-4093.

S-Editor: Wang JJ
L-Editor: A
P-Editor: Wang JJ

REFERENCES


DOI: https://doi.org/10.1093/jscr/rjab204