World Journal of *Clinical Cases*

World J Clin Cases 2022 February 16; 10(5): 1457-1753





Published by Baishideng Publishing Group Inc

W J C C World Journal of Clinical Cases

Contents

Thrice Monthly Volume 10 Number 5 February 16, 2022

REVIEW

1457 Nonalcoholic fatty liver disease shows significant sex dimorphism Chen XY, Wang C, Huang YZ, Zhang LL

MINIREVIEWS

1473 Management of procedural pain in the intensive care unit

Guo NN, Wang HL, Zhao MY, Li JG, Liu HT, Zhang TX, Zhang XY, Chu YJ, Yu KJ, Wang CS

ORIGINAL ARTICLE

Clinical and Translational Research

1485 Effect of prior malignancy on the prognosis of gastric cancer and somatic mutation Yin X, He XK, Wu LY, Yan SX

Retrospective Cohort Study

1498 Elemene-containing hyperthermic intraperitoneal chemotherapy combined with chemotherapy for elderly patients with peritoneal metastatic advanced gastric cancer

Chen ZX, Li J, Liu WB, Zhang SR, Sun H

Retrospective Study

1508 Timing theory continuous nursing, resistance training: Rehabilitation and mental health of caregivers and stroke patients with traumatic fractures

Shen YL, Zhang ZQ, Zhu LJ, Liu JH

1517 Effect of precise nursing service mode on postoperative urinary incontinence prevention in patients with prostate disease

Zheng XC, Luo TT, Cao DD, Cai WZ

Significance of serum glucagon-like peptide-1 and matrix Gla protein levels in patients with diabetes and 1527 osteoporosis

Xie FF, Zhang YF, Hu YF, Xie YY, Wang XY, Wang SZ, Xie BQ

1536 Castleman disease and TAFRO syndrome: To improve the diagnostic consciousness is the key Zhou QY

Observational Study

1548 Correlation of myopia onset and progression with corneal biomechanical parameters in children Lu LL, Hu XJ, Yang Y, Xu S, Yang SY, Zhang CY, Zhao QY



World Journal of Clinical Cases

Contents

Thrice Monthly Volume 10 Number 5 February 16, 2022

META-ANALYSIS

Intensive vs non-intensive statin pretreatment before percutaneous coronary intervention in Chinese 1557 patients: A meta-analysis of randomized controlled trials

Yang X, Lan X, Zhang XL, Han ZL, Yan SM, Wang WX, Xu B, Ge WH

CASE REPORT

- 1572 Giant nodular fasciitis originating from the humeral periosteum: A case report Yu SL, Sun PL, Li J, Jia M, Gao HW
- 1580 Tumor-related cytokine release syndrome in a treatment-naïve patient with lung adenocarcinoma: A case report

Deng PB, Jiang J, Hu CP, Cao LM, Li M

1586 Submucosal protuberance caused by a fish bone in the absence of preoperative positive signs: A case report

Du WW, Huang T, Yang GD, Zhang J, Chen J, Wang YB

1592 Misdiagnosis of unroofed coronary sinus syndrome as an ostium primum atrial septal defect by echocardiography: A case report

Chen JL, Yu CG, Wang DJ, Chen HB

- 1598 Uncommon complication of nasoenteral feeding tube: A case report Jiang YP, Zhang S, Lin RH
- 1602 Treatment of extracranial internal carotid artery dissecting aneurysm with SUPERA stent implantation: Two case reports

Qiu MJ, Zhang BR, Song SJ

1609 Combination of atezolizumab and chidamide to maintain long-term remission in refractory metastatic extranodal natural killer/T-cell lymphoma: A case report

Wang J, Gao YS, Xu K, Li XD

- 1617 Hemangioma in the lower labial vestibule of an eleven-year-old girl: A case report Aloyouny AY, Alfaifi AJ, Aladhyani SM, Alshalan AA, Alfayadh HM, Salem HM
- 1623 Primary orbital monophasic synovial sarcoma with calcification: A case report Ren MY, Li J, Li RM, Wu YX, Han RJ, Zhang C
- 1630 Small-cell carcinoma of the prostate with negative CD56, NSE, Syn, and CgA indicators: A case report Shi HJ, Fan ZN, Zhang JS, Xiong BB, Wang HF, Wang JS

1639 Disseminated peritoneal leiomyomatosis with malignant transformation involving right ureter: A case report

Wen CY, Lee HS, Lin JT, Yu CC



Camban	World Journal of Clinical Case	
Conten	Thrice Monthly Volume 10 Number 5 February 16, 2022	
1645	Arthroscopic surgery for synovial chondroma of the subacromial bursa with non-traumatic shoulder subluxation complications: Two case reports	
	Tang XF, Qin YG, Shen XY, Chen B, Li YZ	
1654	4 Wilkie's syndrome as a cause of anxiety-depressive disorder: A case report and review of literature	
	Apostu RC, Chira L, Colcear D, Lebovici A, Nagy G, Scurtu RR, Drasovean R	
1667	Gastric schwannoma misdiagnosed as gastrointestinal stromal tumor by ultrasonography before surgery: A case report	
	Li QQ, Liu D	
1675	Giant retroperitoneal lipoma presenting with abdominal distention: A case report and review of the literature	
	Chen ZY, Chen XL, Yu Q, Fan QB	
1684	Pneumothorax during retroperitoneal laparoscopic partial nephrectomy in a lupus nephritis patient: A case report	
	Zhao Y, Xue XQ, Xia D, Xu WF, Liu GH, Xie Y, Ji ZG	
1689	Bulbar conjunctival vascular lesion combined with spontaneous retrobulbar hematoma: A case report	
	Lei JY, Wang H	
1697	Hepatitis B virus in cerebrospinal fluid of a patient with purulent bacterial meningitis detected by multiplex-PCR: A case report	
	Gao DQ, Hu YQ, Wang X, Zhang YZ	
1702	Aseptic abscess in the abdominal wall accompanied by monoclonal gammopathy simulating the local recurrence of rectal cancer: A case report	
	Yu Y, Feng YD, Zhang C, Li R, Tian DA, Huang HJ	
1709	Tacrolimus treatment for relapsing-remitting chronic inflammatory demyelinating polyradiculoneuropathy: Two case reports	
	Zhu WJ, Da YW, Chen H, Xu M, Lu Y, Di L, Duo JY	
1716	Vedolizumab-associated diffuse interstitial lung disease in patients with ulcerative colitis: A case report	
	Zhang J, Liu MH, Gao X, Dong C, Li YX	
1723	Unusual magnetic resonance imaging findings of brain and leptomeningeal metastasis in lung adenocarcinoma: A case report	
	Li N, Wang YJ, Zhu FM, Deng ST	
1729	Diffuse invasive signet ring cell carcinoma in total colorectum caused by ulcerative colitis: A case report and review of literature	
	Zhang Z, Yu PF, Gu GL, Zhang YH, Wang YM, Dong ZW, Yang HR	
1738	Neurothekeoma located in the hallux and axilla: Two case reports	
	Huang WY, Zhang YQ, Yang XH	



0	World Journal of Clinical Cases
Conten	Thrice Monthly Volume 10 Number 5 February 16, 2022
1747	Subclavian artery stenting <i>via</i> bilateral radial artery access: Four case reports <i>Qiu T, Fu SQ, Deng XY, Chen M, Dai XY</i>

Contents

Thrice Monthly Volume 10 Number 5 February 16, 2022

ABOUT COVER

Editorial Board Member of World Journal of Clinical Cases, Prashanth Panta, MDS, Reader (Associate Professor), Department of Oral Medicine and Radiology, Malla Reddy Institute of Dental Sciences, Suraram 500055, Telangana, India. maithreya.prashanth@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: Lin-YnTong Wang, Production Department Director: Xiang Li, Editorial Office Director: Jin-Lei Wang.

NAME OF JOURNAL	INSTRUCTIONS TO AUTHORS
World Journal of Clinical Cases	https://www.wjgnet.com/bpg/gerinfo/204
ISSN	GUIDELINES FOR ETHICS DOCUMENTS
ISSN 2307-8960 (online)	https://www.wjgnet.com/bpg/GerInfo/287
LAUNCH DATE	GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
April 16, 2013	https://www.wjgnet.com/bpg/gerinfo/240
FREQUENCY	PUBLICATION ETHICS
Thrice Monthly	https://www.wjgnet.com/bpg/GerInfo/288
EDITORS-IN-CHIEF Bao-Gan Peng, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku	PUBLICATION MISCONDUCT https://www.wjgnet.com/bpg/gerinfo/208
EDITORIAL BOARD MEMBERS	ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/2307-8960/editorialboard.htm	https://www.wjgnet.com/bpg/gerinfo/242
PUBLICATION DATE	STEPS FOR SUBMITTING MANUSCRIPTS
February 16, 2022	https://www.wjgnet.com/bpg/GerInfo/239
COPYRIGHT	ONLINE SUBMISSION
© 2022 Baishideng Publishing Group Inc	https://www.f6publishing.com

© 2022 Baishideng Publishing Group Inc. All rights reserved. 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA E-mail: bpgoffice@wjgnet.com https://www.wjgnet.com



W J C C World Journal C Clinical Cases

World Journal of

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2022 February 16; 10(5): 1702-1708

DOI: 10.12998/wjcc.v10.i5.1702

ISSN 2307-8960 (online)

CASE REPORT

Aseptic abscess in the abdominal wall accompanied by monoclonal gammopathy simulating the local recurrence of rectal cancer: A case report

Yan Yu, Yong-Dong Feng, Chao Zhang, Ran Li, De-An Tian, Huan-Jun Huang

ORCID number: Yan Yu 0000-0001-5030-4617; Yong-Dong Feng 0000-0001-7686-9480; Chao Zhang 0000-0002-1458-8170; Ran Li 0000-0002-8649-2020; De-An Tian 0000-0002-5782-3417; Huan-Jun Huang 0000-0001-7702-9272.

Author contributions: Yu Y, Huang HJ, and Feng YD were the patient's doctors; Yu Y reviewed the literature and contributed to manuscript drafting; Yu Y, Feng YD, and Tian DA conducted the data analyses and interpretation; Li R and Zhang C performed the microbiological and pathological analyses and interpretation, and contributed to manuscript drafting; Huang HJ was responsible for revising the manuscript for important intellectual content; all authors issued final approval for the version to be submitted.

Informed consent statement:

Informed written consent was obtained from the patient for publication of this report and any accompanying images.

Conflict-of-interest statement: The authors declare that they have no conflicts of interest.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the

Yan Yu, De-An Tian, Huan-Jun Huang, Department of Gastroenterology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei Province, China

Yong-Dong Feng, Department of Gastrointestinal Surgery Center, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei Province, China

Chao Zhang, Institute of Pathology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei Province, China

Ran Li, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei Province, China

Corresponding author: Huan-Jun Huang, MD, Additional Professor, Department of Gastroenterology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, No. 1095 Jiefang Road, Wuhan 430030, Hubei Province, China. ttkxbbmm2013@yeah.net

Abstract

BACKGROUND

Infectious abscesses in the abdominal wall can be secondary to retained foreign bodies (e.g., stones, use of artificial mesh, use of silk yarn in surgical suture), inflammatory diseases (e.g., acute appendicitis), and perforated malignancies of the digestive tract (particularly the colon). Aseptic abscesses (AAs) are relatively rare. To the best of our knowledge, this is the first report of an AA in the abdominal wall accompanied by monoclonal gammopathy of undetermined significance (MGUS) at 5 years after laparoscopic proctectomy.

CASE SUMMARY

A 72-year-old female patient presented with an enlarged painless mass in the lower abdomen for 1 year. She had a history of obesity, diabetes, and MGUS. Her surgical history was laparoscopic resection for rectal cancer 6 years prior, followed by chemotherapy. She was afebrile. Abdominal examination revealed a smooth abdomen with a clinically palpable solid mass under a laparotomy scar in the left lower quadrant. No obvious tenderness or skin redness was spotted. Laboratory data were not remarkable. Computed tomography scan revealed a



WJCC | https://www.wjgnet.com

Country/Territory of origin: China

Specialty type: Medicine, research and experimental

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

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: htt ps://creativecommons.org/Licens es/by-nc/4.0/

Received: September 21, 2021 Peer-review started: September 21, 2021

First decision: December 2, 2021 Revised: December 7, 2021 Accepted: December 31, 2021 Article in press: December 31, 2021 Published online: February 16, 2022

P-Reviewer: Shiryajev YN, Tsimogiannis K S-Editor: Fan JR L-Editor: A P-Editor: Fan JR



Yu Y et al. Abdominal wall AA after proctectomy

low-density mass of 4.8 cm in diameter in the lower abdominal wall, which showed high uptake on positron emission tomography. The preoperative diagnosis was an abscess or tumor, and surgical resection was recommended. The mass was confirmed to be an AA by microbiological and pathological examinations. The patient recovered well after surgery. There was no evidence of recurrence 2 years later.

CONCLUSION

It is important to consider underlying conditions (diabetes, chemotherapy, MGUS) which may contribute to AA formation in the surgical wound.

Key Words: Aseptic abscess; Monoclonalgammopathy of undetermined significance; Abdominal wall; Rectal cancer; Laparoscopic resection; Case report

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

Core Tip: We report a case of aseptic abscess (AA) in the abdominal wall accompanied by monoclonal gammopathy of undetermined significance (MGUS) at 5 years after laparoscopic proctectomy. This case report describes the clinical characteristics, laboratory findings, computed tomography images, and treatment, and discusses the possible relationship between AAs and a medical history that includes past surgery, MGUS, diabetes, or chemotherapy.

Citation: Yu Y, Feng YD, Zhang C, Li R, Tian DA, Huang HJ. Aseptic abscess in the abdominal wall accompanied by monoclonal gammopathy simulating the local recurrence of rectal cancer: A case report. World J Clin Cases 2022; 10(5): 1702-1708

URL: https://www.wjgnet.com/2307-8960/full/v10/i5/1702.htm DOI: https://dx.doi.org/10.12998/wjcc.v10.i5.1702

INTRODUCTION

Infectious abscesses in the abdominal wall can be secondary to retained foreign bodies (e.g., stones, use of artificial mesh, use of silk yarn in surgical suture)[1], inflammatory diseases (e.g., acute appendicitis^[2]), and perforated malignancies of the digestive tract (particularly in the colon)[3]. Patients often present with a painful anterior abdominal wall mass, sometimes with purulent discharge and systemic symptoms (e.g., fever)[2]. A diagnosis is made based on abdominal computed tomography (CT) and is confirmed by surgical pathology[3]. Aseptic abscesses (AAs) are relatively rare. To the best of our knowledge, this is the first report of a sterile AAin the abdominal wall accompanied by monoclonal gammopathy of undetermined significance (MGUS) at 5 years after laparoscopic resection for rectal cancer. The atypical symptoms and imaging findings of an AA mimic a tumor, posing a diagnostic dilemma. The underlying diseases contributing to AA formation and treatments are discussed.

CASE PRESENTATION

Chief complaints

A 72-year-old woman presented to the outpatient department of our hospital complaining of a painless mass in the left lower quadrant of the abdomen.

History of present illness

The patient's symptoms began 10 mo prior and had worsened in the last 1 mo. She denied any changes in bowel habits. She was systemically well, with a good appetite and no fever.

History of past illness

The patient had a history of obesity, hypertension, coronary heart disease, and poorly



controlled type 2 diabetes. She had been diagnosed with MGUS 1 year prior. Regular medications included ramipril, amlodipine, aspirin, and gliclazide. Her surgical history included percutaneous coronary intervention in 2009 and laparoscopic radical resection for rectal cancer approximately 6 years and 4 mo prior to her present admission. Postoperative histopathological examination revealed moderately differentiated adenocarcinoma of the rectum with direct invasion to the deep muscular layer of the intestinal wall. All surgical margins were free of disease, and four lymph nodes were retrieved and found to be non-malignant. The pathological staging was pT3N0M0 stage II, according to American Joint Committee on Cancer Staging. The postoperative course was uneventful. The patient received seven cycles of chemotherapy (capecitabine 3000 mg/d) after surgery with curative intent. She was followed up and free of cancer recurrence at 56 mo after surgery.

Physical examination

The patient was afebrile (36.3 °C). Her body mass index (BMI) was 30 kg/m², and her blood pressure and pulse were 127/88 mmHg and 80 beats per min, respectively. Abdominal examination at presentation revealed a smooth abdomen with a clinically palpable solid mass (approximately 4 cm in diameter) under a laparotomy scar in the left lower quadrant. No obvious tenderness, skin redness, swelling, or increased skin temperature was observed around the mass. Abdominal auscultation revealed normal bowel sounds.

Laboratory examinations

Serum levels of glycosylated hemoglobin [8.9%, normal range (NR): 4%-6%], triglycerides (6.79 mmoL/L, NR: 0.9-1.7 mmoL/L), and glucose (12.6 mmoL/L, NR: 4.1-6.0 mmoL/L) were elevated. Hemoglobin levels (114 g/L, NR: 115-150 g/L) were decreased. Serum immunofixation electrophoresis revealed the presence of M-protein (11%, NR: 0%) and elevation of monoclonal immunoglobulin G (IgG) lambda (2.36 g/L, NR: 0.9-2.1 g/L). Other laboratory tests were within NR. The laboratory data were not either indicative of acute inflammation (white blood cell count of 5400 cells/ μ L; neutrophil bands of 66%, serum C-reactive protein level of 0.7 mg/dL) or tumor recurrence (carcinoembryonic antigen level of 2.8 ng/mL).

Imaging examinations

Ultrasonography of the left lower quadrant of the abdominal wall demonstrated a relatively well-demarcated, oval-shaped mass with mixed echogenicity (relatively more hypoechoic) and dimensions of 4.8 cm × 2.2 cm. Blood flow signals were seen in the hypoechoic area. Contrast-enhanced abdominal CT showed a low-density mass with rim enhancement adjacent to the rectus abdominisin the lower abdominal wall (Figure 1A), and ¹⁸F-fluorodeoxyglucose-positron emission tomography (¹⁸F-FDG-PET)/CT revealed high uptake of fluorodeoxyglucose, with a maximum standardized uptake value of 6.0 (Figure 1B). Colonoscopy showed no cancer recurrence. These findings suggested the possibility of either delayed abscess formation or abdominal wall recurrence of rectal cancer with central necrosis.

FINAL DIAGNOSIS

AA in the abdominal wall.

TREATMENT

Complete resection of the mass for therapeutic and diagnostic purposes was proposed. The patient consented to surgery. She subsequently underwent exploratory laparotomy through a midline incision in an elliptical fashion to include the affected abdominal wall part in the specimen. The lesion was confirmed to be an abscess. Upon exploration, a grey white and irregular-shaped mass with central purulent necrosis in the center was found within the abdominal wall (Figure 2). Postoperative transvenous cefoperazone (2.0 g, twice daily) was administered for 3 d. Pathological examination of the specimen revealed a large number of infiltrated neutrophils, lymphocytes, and macrophages in the adipose and connective tissues, accompanied by focal abscess, inflammatory granulation tissue formation, and interstitial fibrosis (Figure 2C and D). Giant epithelioid cells, granuloma, amyloid substance, un-absorbable yarn, or a





Figure 1 Images of the mass by contrast-enhanced abdominal computed tomography and ¹⁸F-fluorodeoxyglucose-positron emission tomography. A: Computed tomography (CT) shows a low-density mass with rim enhancement adjacent to the rectus abdominis in the lower abdominal wall; B: 18Ffluorodeoxyglucose-positron emission tomography/CT shows high uptake of fluorodeoxyglucose by the mass, with a maximum standardized uptake value of 6.0. The white arrows indicate the mass.

foreign body were not found in the specimen. A pus culture produced no bacterial or fungal growth after 7 d. The patient was discharged on the fourth postoperative day.

OUTCOME AND FOLLOW-UP

The patient was in good health at the 2-year follow-up.

DISCUSSION

AA is an inflammatory condition characterized by deep sterile collections of neutrophils, clinically mimicking bacterial abscess^[4]. The diagnosis is established by excluding other diseases in different ialdiagnosis[4]. AA can arise in many parts of the body, including the abdominal cavity[5], liver[6], spleen[6], brain[7], lung[8], and extremities[9].

Although the causes of AA are not completely clear, it is known to be accompanied by some conditions such as inflammatory bowel disease (IBD)[6], surgery[5], drug usage (trastuzumab, crizotinib, vaccine)[7,10,11], and MGUS[8], with IBD being by far the most frequently associated condition[6]. AA can antedate, be concomitant with, or follow the diagnosis of IBD[6]; however, AA does not appear to be strongly associated with the disease activity[6]. In our case, ileocolonoscopy was performed, and no IBD was found. Cholecystectomy has been mentioned in intra-abdominal AA, secondary to foreign body reaction to dropped gallstones in gallbladder leakage[5,12,13]. The time of AA presentation canrange from 4 years to 8 years after surgery [5,13]. For example, Hawasli et al^[12] reported a sterile abscess in the abdominal wall containing gallstones at 4 years and 4 mo after an elective laparoscopic cholecystectomy. In the present case, the AA appeared 5 years after laparoscopic resection for rectal cancer, and was located in the laparoscopic wound. Although no foreign body was retained in the wound, high BMI, diabetes mellitus, and chemotherapy might prevent wound healing, causing local inflammation[14]. Moreover, drug usage is suspected to be one cause as well, as an intracranial AA was formed after the first cycle of trastuzumab in a breast cancer patient[7]. Our patient had received seven cycles of capecitabine and developed AA approximately 4 years after her last chemotherapy treatment. To date, no paper has reportedAA as a side effect of capecitabine.

There is evidence suggesting an association between AA and MGUS. MGUS is a condition characterized by the presence of a monoclonal gammopathy in which the clonal mass has not reached a predefined state in which the condition is considered malignant^[15]. It is a precursor to conditions such asmultiple myelomaor lymphoma at a rate of approximately 1% per year[15]. MGUS is associated with infections, fractures,





Figure 2 Gross appearance of the mass in surgery. A: The mass was grey white with an irregular shape; B: There were purulent exudates in the center of the mass; C and D: Pathological examination of the specimen revealed a large number of infiltrated neutrophils, lymphocytes, and macrophages in the adipose and connective tissues, accompanied by focal abscess, inflammatory granulation tissue formation, and interstitial fibrosis.

peripheral neuropathy, and thromboembolism[16,17]. Only 4 cases of aseptic organ abscesses (spleen, liver, lung, and pancreas) occurring with MGUS have been reported [6,8]. Neutrophilicdermatoses, which are characterized by neutrophil infiltration in the skin, have been reported in monoclonal gammopathy[18,19]. The strongest association is between IgA monoclonal gammopathies and pyodermagangrenosum, a noninfectious neutrophilicdermatosis[18,20,21]. Interestingly, an abnormal neutrophil increase has also been observed in MGUS patients. A leukemoid reaction presenting as neutrophilic leukocytosis can occur with MGUS, which is attributable to cytokine release by neoplastic plasma cells[22,23]. The prompt and long-lasting regression of neutrophilia observed after short-term chemotherapy suggests that the present case should also be considered as a case of plasma-cell dyscrasia-associated neutrophilia [22]. In our case, one could postulate that the poor healing of the surgical wound may have served as an inducing factor and was enhanced by MGUS-associated neutrophil abnormality, ultimately leading to AA formation.

Pain is the most common symptom in patients with AA[13]. Symptoms vary among the organs involved[8,9]. Weight loss, abdominal pain, nausea, and fatigue suggest involvement of the digestive system[9]. In patients with MGUS, the prevalence of symptomatic neuropathy is 8% to 36% [18]. Most patients with neuropathy and IgG monoclonal gammopathy have IgG MGUS[18]. Both MGUS and diabetes can cause neuropathy, which might explain why the AA was painless in our patient. Multiple lesions in the spleen, liver, and skin are present in IBD and prone to relapse[6,9]. Antitumor drugs can cause multiple^[10] or single^[7] AAs. Surgery or a foreign body can cause a single AA and no recurrence has been reported^[13]. Recurrences have occurred with anti-tumor drug usage and vaccination[10,11]. With MGUS, multipleAA lesions have been found in the lung and relapse[8]. In some cases, high fever, weight loss, and pain are the most frequent clinical manifestations associated with severe inflammatory response and elevated polymorphonuclear leukocyte count[6]. Elevated inflammatory markers are mostly seen in patients with IBD[4]. Conversely, the absence of fever or



abdominal pain or lack of a raised leukocyte count does not exclude the possibility of AA[6]. Acute inflammatory symptoms are not obvious and have been observed in patients after surgery[13], anti-tumor drug usage[10], and vaccination[11]. Laboratory tests are unremarkable in patients with AA due to surgery or foreign body[13]. The absence of remarkable inflammatory indicators and pain make it difficult to distinguish AAs from the recurrence of cancer.

Abdominal CT is a very valuable tool for detecting locally advanced colon cancer and its invasion along the tissue planes, which may result in the formation of abdominal wall abscess (AWA)[24]. However, CT is not adequate in distinguishing inflammation and carcinoma in the abdominal wall, especially when the original tumor is absent. Although 18F-FDG-PET/CT is a powerful tool for detecting cancer, 18 FDG uptake is not tumor-specific^[25]. Our case highlights that sterile AWAcomplicating MGUS post-surgerymay pose a diagnostic dilemma mimicking tumors due to their similar radiologic and laboratory appearance.

AA does not respond to antibiotic therapy[9]; however, its response to steroids is excellent^[8]. In some cases, AA completely resolves with the combination of cyclophosphamide and prednisone or anti-tumor necrosis factor-alpha therapy in patients with IBD[6]. For surgery-associated AA, en bloc resection is also a treatment[5, 12,13]. However, for relapsing patients, special attention should be paid to pathologic changes to avoid iterative surgical procedures. The limitation of our case was that corticosteroids were not applied, because the patient had a history of rectal cancer and the lesion could not be preoperatively excluded from a tumor. Therefore, we lack experience on steroid usage in patients with AA. However, our case suggests that AA associated with surgical wound and MGUS can be treated by en bloc resection without the aid of corticosteroids.

In conclusion, if local recurrence is suspected by symptoms and imaging modalities in the postoperative period for colorectal cancer patients, although rare, the possibility of AA formation should be considered. Likewise, it is important to consider underlying diseases such as diabetes, chemotherapy, and MGUS, which may contribute to AA formation in the surgical wound, regardless of the time elapsed from surgery. The atypical manifestations of AA lead to difficulties in differentiating from cancer based on the results of imaging modalities. AA associated with surgical wound and MGUS can be treated by en bloc resection without the aid of corticosteroids. Greater knowledge of AA among physicians will promote early diagnosis and effective treatment.

CONCLUSION

We reported a rare case of an aseptic AWA with MGUS at 5 years after laparoscopic radical resection for rectal cancer. This case study described the clinical characteristics, laboratory results, imaging findings, and treatment. We also discussed the possible relationship among aseptic abscess, MGUS, and laparoscopic surgery. We believe that this case provides a foundation for further studies on the relationship between MGUS, neutrophils and AA.

REFERENCES

- Kawai K, Sunami E, Nishikawa T, Tanaka J, Tanaka T, Kiyomatsu T, Hata K, Nozawa H, Kazama S, Ishihara S, Yamaguchi H, Kitayama J, Watanabe T. Delayed abdominal wall abscess after abdominoperineal resection simulating local recurrence of rectal cancer. Springerplus 2014; 3: 681 [PMID: 25520908 DOI: 10.1186/2193-1801-3-681]
- 2 Souza IMAG, Nunes DAA, Massuqueto CMG, Veiga MAM, Tamada H. Complicated acute appendicitis presenting as an abscess in the abdominal wall in an elderly patient: A case report. Int J Surg Case Rep 2017; 41: 5-8 [PMID: 29024841 DOI: 10.1016/j.ijscr.2017.09.023]
- 3 Amer E, Er A, Cengiz F, Karaisli S, Peskersoy M. Colon Cancer Presenting as Abdominal Wall Abscess. Cyprus J Med Sci 2018; 3: 202-203
- 4 Snast I, Ostfeld I, Pavlovsky L, Hodak E, Gafter-Gvili A. Pyoderma Gangrenosum and Extensive Aseptic Chest Wall Abscess in a Patient with Inflammatory Bowel Disease. Isr Med Assoc J 2018; 20: 712-713 [PMID: 30430804]
- Kakaty D, Gosztonyi J, Anthamatten C, Zengaffinen R. Sterile abscess mimicking an abdominal 5 tumor 8 years after laparoscopic cholecystectomy. J Surg Case Rep 2017; 2017: rjx176 [PMID: 28928930 DOI: 10.1093/jscr/rjx176]
- André MFJ, Piette JC, Kémény JL, Ninet J, Jego P, Delèvaux I, Wechsler B, Weiller PJ, Francès C,



Blétry O, Wismans PJ, Rousset H, Colombel JF, Aumaître O; and the French Study Group on Aseptic Abscesses. Aseptic abscesses: a study of 30 patients with or without inflammatory bowel disease and review of the literature. Medicine (Baltimore) 2007; 86: 145-161 [PMID: 17505254 DOI: 10.1097/md.0b013e18064f9f3]

- Mezei T, Hajdu M, Czigléczki G, Lotz G, Kocsis J, Kulka J, Horváth A. Sterile, abscess-like cerebral 7 lesion during trastuzumab therapy after HER2 status switch in a triple negative breast cancer patient: a case report and literature review. BMC Cancer 2020; 20: 615 [PMID: 32611325 DOI: 10.1186/s12885-020-07114-7]
- Mitrevski M, Granata M, Sedati P, Rota F, De Santis A, Remotti D, Callea F, Visentini M. Sterile 8 abscesses complicating monoclonal gammopathy of undetermined significance. Eur J Haematol 2008; 81: 246 [PMID: 18410540 DOI: 10.1111/j.1600-0609.2008.01084.x]
- Agirgol S, Ustaoglu E, Demir FT, Akbulut TO, Turkoglu Z, Kaya H, Pehlivanoğlu F. Aseptic Abscess Syndrome with Severe Skin Involvement: Case Report. Indian J Dermatol 2020; 65: 434-436 [PMID: 33165447 DOI: 10.4103/ijd.IJD_259_18]
- Weber D, Decker M, Schuster M, Folz S, Stürmer CJ, Lutz MP. Crizotinib: aseptic abscesses in 10 multiple organs during treatment of EML4-ALK-positive NSCLC. J Cancer Res Clin Oncol 2021; 147: 3769-3771 [PMID: 34373943 DOI: 10.1007/s00432-021-03664-w]
- Kaya A, Kaya SY. A case of recurrent sterile abscesses following tetanus-diphtheria vaccination 11 treated with corticosteroids. BMC Infect Dis 2021; 21: 53 [PMID: 33430802 DOI: 10.1186/s12879-020-05756-3
- 12 Hawasli A, Schroder D, Rizzo J, Thusay M, Takach TJ, Thao U, Goncharova I. Remote complications of spilled gallstones during laparoscopic cholecystectomy: causes, prevention, and management. J Laparoendosc Adv Surg Tech A 2002; 12: 123-128 [PMID: 12019573 DOI: 10.1089/109264202529396641
- Bartels AK, Murali AR, Zamora JG. Subhepatic Sterile Abscess 10 Years After Laparoscopic 13 Cholecystectomy. ACG Case Rep J 2015; 2: 113-115 [PMID: 26157931 DOI: 10.14309/crj.2015.22]
- 14 Xu Z, Qu H, Kanani G, Guo Z, Ren Y, Chen X. Update on risk factors of surgical site infection in colorectal cancer: a systematic review and meta-analysis. Int J Colorectal Dis 2020; 35: 2147-2156 [PMID: 32748113 DOI: 10.1007/s00384-020-03706-8]
- 15 Glavey SV, Leung N. Monoclonal gammopathy: The good, the bad and the ugly. Blood Rev 2016; 30: 223-231 [PMID: 26732417 DOI: 10.1016/j.blre.2015.12.001]
- 16 Tete SM, Bijl M, Sahota SS, Bos NA. Immune defects in the risk of infection and response to vaccination in monoclonal gammopathy of undetermined significance and multiple myeloma. Front Immunol 2014; 5: 257 [PMID: 24917865 DOI: 10.3389/fimmu.2014.00257]
- 17 Mouhieddine TH, Weeks LD, Ghobrial IM. Monoclonal gammopathy of undetermined significance. Blood 2019; 133: 2484-2494 [PMID: 31010848 DOI: 10.1182/blood.2019846782]
- 18 Decaux O, Laurat E, Perlat A, Cazalets C, Jego P, Grosbois B. Systemic manifestations of monoclonal gammopathy. Eur J Intern Med 2009; 20: 457-461 [PMID: 19712843 DOI: 10.1016/j.ejim.2009.01.001]
- 19 Gusdorf L, Lipsker D. Schnitzler Syndrome: the paradigm of an acquired adult-onset autoinflammatory disease. G Ital Dermatol Venereol 2020; 155: 567-573 [PMID: 33295738 DOI: 10.23736/S0392-0488.20.06692-4]
- Montagnon CM, Fracica EA, Patel AA, Camilleri MJ, Murad MH, Dingli D, Wetter DA, Tolkachjov 20 SN. Pyoderma gangrenosum in hematologic malignancies: A systematic review. J Am Acad Dermatol 2020; 82: 1346-1359 [PMID: 31560977 DOI: 10.1016/j.jaad.2019.09.032]
- Velasco-Tamariz V, Carreño-Tarragona G, Tous-Romero F, Gil-de la Cruz E, Martín-Clavero E, 21 Rivera-Díaz R. Dramatic resolution of disseminated pyoderma gangrenosum associated with monoclonal gammopathy after therapy with bortezomib and dexamethasone. Int Wound J 2017; 14: 1382-1384 [PMID: 28371346 DOI: 10.1111/iwj.12746]
- 22 Gnerre P, Ottonello L, Montecucco F, Boero M, Dallegri F. Nephrotic syndrome in a patient with IgM myeloma with associated neutrophilia. Eur J Haematol 2007; 79: 76-80 [PMID: 17598840 DOI: 10.1111/j.1600-0609.2007.00869.x]
- 23 Bain BJ, Ahmad S. Chronic neutrophilic leukaemia and plasma cell-related neutrophilic leukaemoid reactions. Br J Haematol 2015; 171: 400-410 [PMID: 26218186 DOI: 10.1111/bjh.13600]
- Kim SW, Shin HC, Kim IY, Kim YT, Kim CJ. CT findings of colonic complications associated with 24 colon cancer. Korean J Radiol 2010; 11: 211-221 [PMID: 20191069 DOI: 10.3348/kjr.2010.11.2.211]
- 25 Flaus A, Longo MG, Dematons M, Granjon D, Prevot N. 18F-FDG PET/CT in Urachal Abscess. Clin Nucl Med 2019; 44: e349-e350 [PMID: 30829865 DOI: 10.1097/RLU.00000000002524]

WJCC | https://www.wjgnet.com



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

