

World Journal of *Clinical Cases*

World J Clin Cases 2022 July 6; 10(19): 6341-6758



Contents

Thrice Monthly Volume 10 Number 19 July 6, 2022

MINIREVIEWS

- 6341** Review of clinical characteristics, immune responses and regulatory mechanisms of hepatitis E-associated liver failure
Chen C, Zhang SY, Chen L
- 6349** Current guidelines for *Helicobacter pylori* treatment in East Asia 2022: Differences among China, Japan, and South Korea
Cho JH, Jin SY
- 6360** Review of epidermal growth factor receptor-tyrosine kinase inhibitors administration to non-small-cell lung cancer patients undergoing hemodialysis
Lan CC, Hsieh PC, Huang CY, Yang MC, Su WL, Wu CW, Wu YK

ORIGINAL ARTICLE

Case Control Study

- 6370** Pregnancy-related psychopathology: A comparison between pre-COVID-19 and COVID-19-related social restriction periods
Chieffo D, Avallone C, Serio A, Kotzalidis GD, Balocchi M, De Luca I, Hirsch D, Gonzalez del Castillo A, Lanzotti P, Marano G, Rinaldi L, Lanzone A, Mercuri E, Mazza M, Sani G
- 6385** Intestinal mucosal barrier in functional constipation: Dose it change?
Wang JK, Wei W, Zhao DY, Wang HF, Zhang YL, Lei JP, Yao SK

Retrospective Cohort Study

- 6399** Identification of risk factors for surgical site infection after type II and type III tibial pilon fracture surgery
Hu H, Zhang J, Xie XG, Dai YK, Huang X

Retrospective Study

- 6406** Total knee arthroplasty in Ranawat II valgus deformity with enlarged femoral valgus cut angle: A new technique to achieve balanced gap
Lv SJ, Wang XJ, Huang JF, Mao Q, He BJ, Tong PJ
- 6417** Preliminary evidence in treatment of eosinophilic gastroenteritis in children: A case series
Chen Y, Sun M
- 6428** Self-made wire loop snare successfully treats gastric persimmon stone under endoscopy
Xu W, Liu XB, Li SB, Deng WP, Tong Q
- 6437** Neoadjuvant transcatheter arterial chemoembolization and systemic chemotherapy for the treatment of undifferentiated embryonal sarcoma of the liver in children
He M, Cai JB, Lai C, Mao JQ, Xiong JN, Guan ZH, Li LJ, Shu Q, Ying MD, Wang JH

- 6446** Effect of cold snare polypectomy for small colorectal polyps

Meng QQ, Rao M, Gao PJ

- 6456** Field evaluation of COVID-19 rapid antigen test: Are rapid antigen tests less reliable among the elderly?

Tabain I, Cucevic D, Skreb N, Mrzljak A, Ferencak I, Hruskar Z, Misic A, Kuzle J, Skoda AM, Jankovic H, Vilibic-Cavlek T

Observational Study

- 6464** Tracheobronchial intubation using flexible bronchoscopy in children with Pierre Robin sequence: Nursing considerations for complications

Ye YL, Zhang CF, Xu LZ, Fan HF, Peng JZ, Lu G, Hu XY

- 6472** Family relationship of nurses in COVID-19 pandemic: A qualitative study

Çelik MY, Kiliç M

META-ANALYSIS

- 6483** Diagnostic accuracy of ≥ 16 -slice spiral computed tomography for local staging of colon cancer: A systematic review and meta-analysis

Liu D, Sun LM, Liang JH, Song L, Liu XP

CASE REPORT

- 6496** Delayed-onset endophthalmitis associated with *Achromobacter* species developed in acute form several months after cataract surgery: Three case reports

Kim TH, Lee SJ, Nam KY

- 6501** Sustained dialysis with misplaced peritoneal dialysis catheter outside peritoneum: A case report

Shen QQ, Behera TR, Chen LL, Attia D, Han F

- 6507** Arteriovenous thrombotic events in a patient with advanced lung cancer following bevacizumab plus chemotherapy: A case report

Kong Y, Xu XC, Hong L

- 6514** Endoscopic ultrasound radiofrequency ablation of pancreatic insulinoma in elderly patients: Three case reports

Rossi G, Petrone MC, Capurso G, Partelli S, Falconi M, Arcidiacono PG

- 6520** Acute choroidal involvement in lupus nephritis: A case report and review of literature

Yao Y, Wang HX, Liu LW, Ding YL, Sheng JE, Deng XH, Liu B

- 6529** Triple A syndrome-related achalasia treated by per-oral endoscopic myotomy: Three case reports

Liu FC, Feng YL, Yang AM, Guo T

- 6536** Choroidal thickening with serous retinal detachment in BRAF/MEK inhibitor-induced uveitis: A case report

Kiraly P, Groznik AL, Valentinčič NV, Mekjavić PJ, Urbančič M, Ocvirk J, Mesti T

- 6543** Esophageal granular cell tumor: A case report

Chen YL, Zhou J, Yu HL

- 6548** Hem-o-lok clip migration to the common bile duct after laparoscopic common bile duct exploration: A case report
Liu DR, Wu JH, Shi JT, Zhu HB, Li C
- 6555** Chidamide and sintilimab combination in diffuse large B-cell lymphoma progressing after chimeric antigen receptor T therapy
Hao YY, Chen PP, Yuan XG, Zhao AQ, Liang Y, Liu H, Qian WB
- 6563** Relapsing polychondritis with isolated tracheobronchial involvement complicated with Sjogren's syndrome: A case report
Chen JY, Li XY, Zong C
- 6571** Acute methanol poisoning with bilateral diffuse cerebral hemorrhage: A case report
Li J, Feng ZJ, Liu L, Ma YJ
- 6580** Immunoabsorption therapy for Klinefelter syndrome with antiphospholipid syndrome in a patient: A case report
Song Y, Xiao YZ, Wang C, Du R
- 6587** Roxadustat for treatment of anemia in a cancer patient with end-stage renal disease: A case report
Zhou QQ, Li J, Liu B, Wang CL
- 6595** Imaging-based diagnosis for extraskeletal Ewing sarcoma in pediatrics: A case report
Chen ZH, Guo HQ, Chen JJ, Zhang Y, Zhao L
- 6602** Unusual course of congenital complete heart block in an adult: A case report
Su LN, Wu MY, Cui YX, Lee CY, Song JX, Chen H
- 6609** Penile metastasis from rectal carcinoma: A case report
Sun JJ, Zhang SY, Tian JJ, Jin BY
- 6617** Isolated cryptococcal osteomyelitis of the ulna in an immunocompetent patient: A case report
Ma JL, Liao L, Wan T, Yang FC
- 6626** Magnetic resonance imaging features of intrahepatic extramedullary hematopoiesis: Three case reports
Luo M, Chen JW, Xie CM
- 6636** Giant retroperitoneal liposarcoma treated with radical conservative surgery: A case report and review of literature
Lieto E, Cardella F, Erario S, Del Sorbo G, Reginelli A, Galizia G, Urraro F, Panarese I, Auricchio A
- 6647** Transplanted kidney loss during colorectal cancer chemotherapy: A case report
Pośpiech M, Kolonko A, Nieszporek T, Kozak S, Kozaczka A, Karkoszka H, Winder M, Chudek J
- 6656** Massive gastrointestinal bleeding after endoscopic rubber band ligation of internal hemorrhoids: A case report
Jiang YD, Liu Y, Wu JD, Li GP, Liu J, Hou XH, Song J

- 6664** Mills' syndrome is a unique entity of upper motor neuron disease with N-shaped progression: Three case reports
Zhang ZY, Ouyang ZY, Zhao GH, Fang JJ
- 6672** Entire process of electrocardiogram recording of Wellens syndrome: A case report
Tang N, Li YH, Kang L, Li R, Chu QM
- 6679** Retroperitoneal tumor finally diagnosed as a bronchogenic cyst: A case report and review of literature
Gong YY, Qian X, Liang B, Jiang MD, Liu J, Tao X, Luo J, Liu HJ, Feng YG
- 6688** Successful treatment of Morbihan disease with total glucosides of paeony: A case report
Zhou LF, Lu R
- 6695** Ant sting-induced whole-body pustules in an inebriated male: A case report
Chen SQ, Yang T, Lan LF, Chen XM, Huang DB, Zeng ZL, Ye XY, Wan CL, Li LN
- 6702** Plastic surgery for giant metastatic endometrioid adenocarcinoma in the abdominal wall: A case report and review of literature
Wang JY, Wang ZQ, Liang SC, Li GX, Shi JL, Wang JL
- 6710** Delayed-release oral mesalamine tablet mimicking a small jejunal gastrointestinal stromal tumor: A case report
Frosio F, Rausa E, Marra P, Boutron-Ruault MC, Lucianetti A
- 6716** Concurrent alcoholic cirrhosis and malignant peritoneal mesothelioma in a patient: A case report
Liu L, Zhu XY, Zong WJ, Chu CL, Zhu JY, Shen XJ
- 6722** Two smoking-related lesions in the same pulmonary lobe of squamous cell carcinoma and pulmonary Langerhans cell histiocytosis: A case report
Gencer A, Ozcibik G, Karakas FG, Sarbay I, Batur S, Borekci S, Turna A
- 6728** Proprotein convertase subtilisin/kexin type 9 inhibitor non responses in an adult with a history of coronary revascularization: A case report
Yang L, Xiao YY, Shao L, Ouyang CS, Hu Y, Li B, Lei LF, Wang H
- 6736** Multimodal imaging study of lipemia retinalis with diabetic retinopathy: A case report
Zhang SJ, Yan ZY, Yuan LF, Wang YH, Wang LF
- 6744** Primary squamous cell carcinoma of the liver: A case report
Kang LM, Yu DP, Zheng Y, Zhou YH
- 6750** Tumor-to-tumor metastasis of clear cell renal cell carcinoma to contralateral synchronous pheochromocytoma: A case report
Wen HY, Hou J, Zeng H, Zhou Q, Chen N

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Abdulqadir Jeprel Naswhan, MSc, RN, Director, Research Scientist, Senior Lecturer, Senior Researcher, Nursing for Education and Practice Development, Hamad Medical Corporation, Doha 576214, Qatar. anashwan@hamad.qa

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: Xu Guo; Production Department Director: Xiang Li; 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

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

July 6, 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>



Sustained dialysis with misplaced peritoneal dialysis catheter outside peritoneum: A case report

Quan-Quan Shen, Tapas Ranjan Behera, Liang-Liang Chen, Doaa Attia, Fei Han

Specialty type: Urology and nephrology

Provenance and peer review:

Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0

Grade B (Very good): B

Grade C (Good): C, C, C

Grade D (Fair): 0

Grade E (Poor): 0

P-Reviewer: Moyses Neto M, Brazil; Sachdeva S, India; Yang WY, China

Received: August 2, 2021

Peer-review started: August 2, 2021

First decision: November 6, 2021

Revised: November 15, 2021

Accepted: May 12, 2022

Article in press: May 12, 2022

Published online: July 6, 2022



Quan-Quan Shen, Liang-Liang Chen, Fei Han, Kidney Disease Center, The First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou 310003, Zhejiang Province, China

Quan-Quan Shen, Liang-Liang Chen, Fei Han, Institute of Nephrology, Zhejiang University, Hangzhou 310003, Zhejiang Province, China

Quan-Quan Shen, Liang-Liang Chen, Fei Han, Key Laboratory of Kidney Disease Prevention and Control Technology, Hangzhou 310003, Zhejiang Province, China

Quan-Quan Shen, Nephrology Center, Department of Nephrology, Zhejiang Provincial People's Hospital, The Affiliated People's Hospital, Hangzhou Medical College, Hangzhou 310014, Zhejiang Province, China

Tapas Ranjan Behera, Doaa Attia, Taussig Cancer Institute, Cleveland Clinic, Cleveland, OH 44195, United States

Corresponding author: Fei Han, MD, Professor, Kidney Disease Center, The First Affiliated Hospital, Zhejiang University School of Medicine, No. 79 Qingchun Road, Shangcheng District, Hangzhou 310003, Zhejiang Province, China. hantf8876@zju.edu.cn

Abstract

BACKGROUND

In patients undergoing peritoneal dialysis (PD), catheter dysfunction is a common complication. A misplaced catheter is one of the reasons contributing to its dysfunction. The present study aimed to describe a case of misplaced PD catheter with an unusual location of the catheter tip.

CASE SUMMARY

A 61-year-old man undergoing PD for 4 years was investigated for progressive nausea and fatigue of 3 mo. Dialysis adequacy studies indicated inefficient dialysis. Imaging discovered that the PD catheter tip was mispositioned in the pelvic cavity with its tip outside the peritoneal cavity. Despite the dialysate accumulating outside the peritoneal cavity, the patient had not developed perineal or scrotal edema. The patient had experienced a sustainable prolonged dialysis efficacy in this case until the renal function deteriorated further in view of the poor dialysis outcome and worsening health condition. The patient was subsequently transitioned to hemodialysis.

CONCLUSION

Proper placement of the catheter in the peritoneal cavity should always be confirmed and re-checked when necessary in patients undergoing PD to ensure dialytic adequacy.

Key Words: Peritoneal dialysis; Peritoneal cavity; Kidney; Case report

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

Core Tip: We present the case of a 61-year-old man undergoing prolonged peritoneal dialysis for 4 years who had the peritoneal dialysis catheter tip mispositioned outside the peritoneal cavity. Despite the prolonged dialysis with the misplaced catheter tip, the patient was able to sustain his dialysis adequacy without developing edema of the perineal, scrotal or abdominal muscles. This is the first case report describing this unique location of the catheter tip between the peritoneum and transversalis fascia that prevented early complication of dialysate migrating into the muscle causing edema while simultaneously allowing a sustainable dialysis through the available peritoneal surface.

Citation: Shen QQ, Behera TR, Chen LL, Attia D, Han F. Sustained dialysis with misplaced peritoneal dialysis catheter outside peritoneum: A case report. *World J Clin Cases* 2022; 10(19): 6501-6506

URL: <https://www.wjgnet.com/2307-8960/full/v10/i19/6501.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v10.i19.6501>

INTRODUCTION

Patients with renal dysfunction require renal replacement therapy that may include hemodialysis and peritoneal dialysis. In peritoneal dialysis (PD), the dialysate is introduced to the peritoneal cavity through the PD catheter, the tip of which stays positioned within in the peritoneal cavity for introduction and evacuation of the dialysate fluid. Though PD is a relatively safe procedure, there could be complications associated to its use. The complications of PD are commonly classified as infectious and noninfectious. Although infectious complications such as peritonitis leading to morbidity and mortality remain the main cause of PD failure[1], non-infectious causes also result in patient morbidity, which could be prevented by early recognition and management[2]. The various non-infectious complications are due to erroneous PD catheter insertion technique, failure to retain the catheter in the peritoneal cavity or a dialysate-induced rise in intra-abdominal pressure and the resulting metabolic effects. Here we report a case of a patient with end-stage renal disease undergoing PD without any incidence of significant deterioration over 4 years until he presented with inadequate small solute clearance as a complication of the misplaced extra-peritoneal catheter.

CASE PRESENTATION

Chief complaints

A 61-year-old man with end-stage renal disease undergoing PD was referred to our hospital with progressive nausea and fatigue for 3 mo.

History of present illness

The patient had developed renal failure secondary to uric acid nephropathy and was implanted with straight catheter with double polyester cuff. He was undergoing PD for 4 years. He had been undergoing continuous ambulatory PD with 3 exchanges per day; one with 1.5% solution and the remaining two with 2.5% solution, thereby achieving around 500 mL of peritoneal ultrafiltrate.

History of past illness

Other than the uric acid nephropathy, the patient had chronic hypertension.

Personal and family history

There was no family history of renal failure or any relevant nephropathy in the family.

Physical examination

On admission, physical examination showed a tense distended abdomen without signs of edema in the

perineum or lower extremities (Figure 1).

Laboratory examinations

Laboratory assessment revealed severe anemia in the patient, with blood urea nitrogen 19.66 mmol/L, serum creatinine 884 μ mol/L, uric acid 611 μ mol/L, albumin 21.2 g/L, calcium 2.03 mmol/L, phosphate 2.10 mmol/L and parathyroid hormone level of 204 pmol/L. Peritoneal equilibration test determined his 4-hour equilibration between dialysate and plasma creatinine to be 0.571, classifying him as a low-average transporter. The peritoneal dialysis adequacy parameters measured 5 mo prior to hospitalization as peritoneal kt/Vurea and dialysis creatinine clearance were 1.314 and 42.706 L/wk, respectively; the renal kt/Vurea and creatinine clearance at that time were 0.22 and 8.741 L/wk, respectively.

Imaging examinations

Imaging studies were performed to evaluate anatomical etiology. The abdominal plain film showed the tip of peritoneal catheter positioned in the true pelvis (Figure 2). The abdominal computed tomography confirmed the peritoneal dialysis catheter and the dialysis fluid to be outside the abdominal cavity (Figure 3).

FINAL DIAGNOSIS

Misplaced PD catheter tip was identified to be the reason of his deteriorating dialysis efficacy leading to his presentation.

TREATMENT

In view of the worsening health condition due to poor dialysis outcome, the PD solution was drained, and the catheter was removed, transferring the patient to hemodialysis mode of renal replacement therapy.

OUTCOME AND FOLLOW-UP

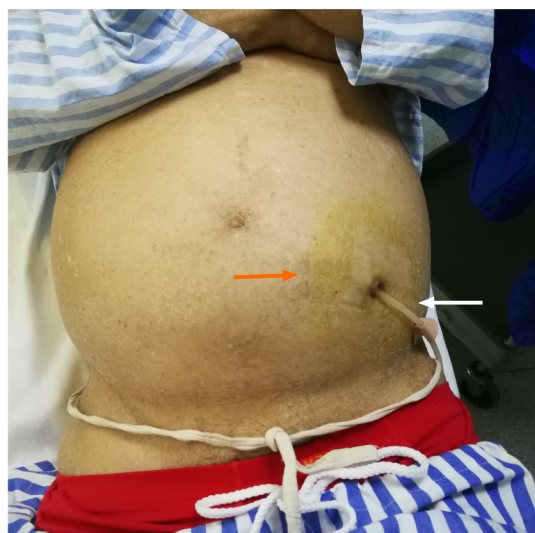
The patient's laboratory parameters and symptoms improved after the hemodialysis. The patient was followed up for surgical creation of fistula for future hemodialysis, which was continued at the local hospital.

DISCUSSION

Techniques for PD catheter insertion include placement by percutaneous needle-guidewire with or without image guidance, open surgical dissection, peritoneoscopic and laparoscopic implantation[3]. Irrespective of catheter insertion approach, the placement of catheter entry inside the peritoneal cavity must always be confirmed. The small pelvis below the pelvic brim is the ideal site for catheter tip location; positioning of the tip outside of this is considered a malposition of PD catheter, which has been attributed to contribute to catheter dysfunction. Several techniques of catheter insertion have been investigated including catheter tip fixation, in order to prevent its migration[4].

The catheter insertion in this patient was done by open dissection as evidenced by the surgical scar of the vertical paramedian incision (Figure 1). The catheter was located in the pelvis; however, the catheter tip was outside the peritoneal cavity. Despite the unintended location of the dialysis catheter over a period of 4 years of ongoing PD, the patient did not develop perineal or scrotal edema nor did the dialysate enter into the abdominal muscle. This could be possible if the catheter entered through the posterior rectus sheath and transversalis fascia without passing through the peritoneum, thus the catheter tip was located between the transversalis fascia and peritoneum. Another possible explanation of the position of the catheter tip could be catheter extrusion from its normal position.

PD relies on the use of the peritoneum as a semipermeable membrane for the exchange of solutes and water. The host-related factors, including peritoneal membrane surface area and peritoneal blood flow, influence transcapillary movement of solute and water[5]. In this case the patient remained sustainable through the PD for a prolonged period due to the residual renal reserves until the limited effective surface area of the peritoneum could not support adequate dialysis. The low PD adequacy parameters along with the worsening health condition prompted imaging to detect PD catheter failure. In patients not achieving the minimal delivered clearance goal, it is reasonable to ensure that the PD catheter is



DOI: 10.12998/wjcc.v10.i19.6501 Copyright ©The Author(s) 2022.

Figure 1 External view of the abdomen. Surgical scar of vertical paramedian incision (orange arrow) and peritoneal dialysis catheter (white arrow).



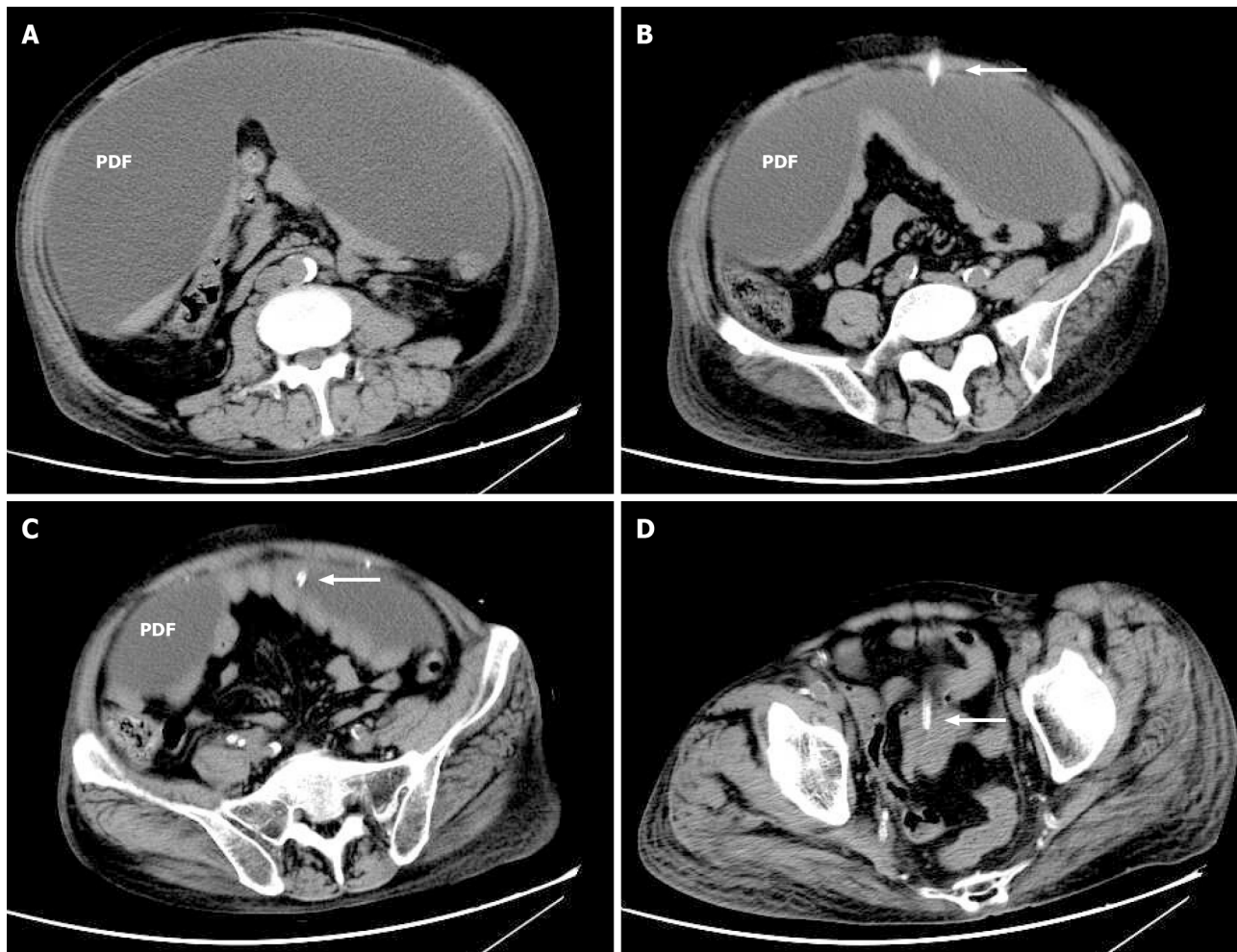
DOI: 10.12998/wjcc.v10.i19.6501 Copyright ©The Author(s) 2022.

Figure 2 Abdominal plain film showing the tip of peritoneal dialysis catheter (arrow) located in the true pelvis.

located within the peritoneal cavity.

CONCLUSION

This is the first case report describing a sustained PD for over 4 years with a misplaced extra-PD catheter in a patient undergoing PD. The unique location of the catheter tip between the peritoneum and transversalis fascia prevented early complication of dialysate migration into the muscle causing edema while allowing filtration through the available peritoneal surface area. To prevent complications of PD it is important to confirm and re-check when necessary the placement of catheter tip inside the peritoneal cavity.



DOI: 10.12998/wjcc.v10.i19.6501 Copyright ©The Author(s) 2022.

Figure 3 Longitudinal abdominal computed tomography showing peritoneal dialysis fluid and catheter (arrow) to be outside the abdominal cavity. PDF: Peritoneal dialysis fluid.

FOOTNOTES

Author contributions: Shen QQ and Behera TR drafted the manuscript; Chen LL and Attia D conducted the literature review; Han F, Behera TR and Attia D revised the manuscript; All authors have read and approved the final manuscript.

Supported by National Natural Science Foundation of China, No. 81900692.

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

Conflict-of-interest statement: The authors declare to 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: United States

ORCID number: Tapas Ranjan Behera 0000-0001-7595-7841; Liang-Liang Chen 0000-0003-2102-3300; Doaa Attia 0000-0002-1686-9072; Fei Han 0000-0001-5363-7556.

S-Editor: Liu JH

L-Editor: Filipodia

P-Editor: Liu JH

REFERENCES

- 1 **Li PK**, Szeto CC, Piraino B, de Arteaga J, Fan S, Figueiredo AE, Fish DN, Goffin E, Kim YL, Salzer W, Struijk DG, Teitelbaum I, Johnson DW. ISPD Peritonitis Recommendations: 2016 Update on Prevention and Treatment. *Perit Dial Int* 2016; **36**: 481-508 [PMID: [27282851](#) DOI: [10.3747/pdi.2016.00078](#)]
- 2 **McCormick BB**, Bargman JM. Noninfectious complications of peritoneal dialysis: implications for patient and technique survival. *J Am Soc Nephrol* 2007; **18**: 3023-3025 [PMID: [18003770](#) DOI: [10.1681/ASN.2007070796](#)]
- 3 **Crabtree JH**, Shrestha BM, Chow KM, Figueiredo AE, Povlsen JV, Wilkie M, Abdel-Aal A, Cullis B, Goh BL, Briggs VR, Brown EA, Dor FJMF. Creating and Maintaining Optimal Peritoneal Dialysis Access in the Adult Patient: 2019 Update. *Perit Dial Int* 2019; **39**: 414-436 [PMID: [31028108](#) DOI: [10.3747/pdi.2018.00232](#)]
- 4 **Chen JC**, Lee WJ, Liu TP. Modified laparoscopic technique for fixation of peritoneal dialysis catheter. *Surg Laparosc Endosc Percutan Tech* 2014; **24**: e146-e150 [PMID: [24752157](#) DOI: [10.1097/SLE.0000000000000043](#)]
- 5 **Waniewski J**, Werynski A, Lindholm B. Effect of blood perfusion on diffusive transport in peritoneal dialysis. *Kidney Int* 1999; **56**: 707-713 [PMID: [10432412](#) DOI: [10.1046/j.1523-1755.1999.00595.x](#)]



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>

