

World Journal of *Clinical Cases*

World J Clin Cases 2022 September 26; 10(27): 9550-9969



Contents

Thrice Monthly Volume 10 Number 27 September 26, 2022

OPINION REVIEW

- 9550 Psychiatric disorders and pain: The recurrence of a comorbidity
Vyshka G

REVIEW

- 9556 Cardiovascular disease and COVID-19, a deadly combination: A review about direct and indirect impact of a pandemic
Vidal-Perez R, Brandão M, Pazdernik M, Kresoja KP, Carpenito M, Maeda S, Casado-Arroyo R, Muscoli S, Pöss J, Fontes-Carvalho R, Vazquez-Rodriguez JM
- 9573 Molecular factors, diagnosis and management of gastrointestinal tract neuroendocrine tumors: An update
Pavlidis ET, Pavlidis TE

MINIREVIEWS

- 9588 Human-induced pluripotent stem cell-atrial-specific cardiomyocytes and atrial fibrillation
Leowattana W, Leowattana T, Leowattana P
- 9602 COVID-19 and the cardiovascular system-current knowledge and future perspectives
Chatzis DG, Magounaki K, Pantazopoulos I, Bhaskar SMM

ORIGINAL ARTICLE

Case Control Study

- 9611 PDCA nursing in improving quality management efficacy in endoscopic submucosal dissection
He YH, Wang F

Retrospective Study

- 9619 Impact of COVID-19 pandemic on the ocular surface
Marta A, Marques JH, Almeida D, José D, Sousa P, Barbosa I
- 9628 Anatomy and clinical application of suprascapular nerve to accessory nerve transfer
Wang JW, Zhang WB, Li F, Fang X, Yi ZQ, Xu XL, Peng X, Zhang WG
- 9641 Therapeutic effect of two methods on avulsion fracture of tibial insertion of anterior cruciate ligament
Niu HM, Wang QC, Sun RZ
- 9650 Efficacy of transcatheter arterial chemoembolization using pirarubicin-loaded microspheres combined with lobaplatin for primary liver cancer
Zhang C, Dai YH, Lian SF, Liu L, Zhao T, Wen JY

- 9657** Prognostic significance of sex determining region Y-box 2, E-cadherin, and vimentin in esophageal squamous cell carcinoma

Li C, Ma YQ

- 9670** Clinical characteristics and prognosis of orbital solitary fibrous tumor in patients from a Chinese tertiary eye hospital

Ren MY, Li J, Wu YX, Li RM, Zhang C, Liu LM, Wang JJ, Gao Y

Observational Study

- 9680** Altered heart rate variability and pulse-wave velocity after spinal cord injury

Tsou HK, Shih KC, Lin YC, Li YM, Chen HY

- 9693** Intra and extra pelvic multidisciplinary surgical approach of retroperitoneal sarcoma: Case series report

Song H, Ahn JH, Jung Y, Woo JY, Cha J, Chung YG, Lee KH

META-ANALYSIS

- 9703** Meta-analysis of gemcitabine plus nab-paclitaxel combined with targeted agents in the treatment of metastatic pancreatic cancer

Li ZH, Ma YJ, Jia ZH, Weng YY, Zhang P, Zhu SJ, Wang F

- 9714** Clinical efficacy analysis of mesenchymal stem cell therapy in patients with COVID-19: A systematic review

Cao JX, You J, Wu LH, Luo K, Wang ZX

CASE REPORT

- 9727** Treatment of gastric cancer with dermatomyositis as the initial symptom: Two case reports and review of literature

Sun XF, Gao XD, Shen KT

- 9734** Gallbladder hemorrhage—An uncommon surgical emergency: A case report

Valenti MR, Cavallaro A, Di Vita M, Zanghi A, Longo Trischitta G, Cappellani A

- 9743** Successful treatment of stage IIIB intrahepatic cholangiocarcinoma using neoadjuvant therapy with the PD-1 inhibitor camrelizumab: A case report

Zhu SG, Li HB, Dai TX, Li H, Wang GY

- 9750** Myocarditis as an extraintestinal manifestation of ulcerative colitis: A case report and review of the literature

Wang YY, Shi W, Wang J, Li Y, Tian Z, Jiao Y

- 9760** Endovascular treatment of traumatic renal artery pseudoaneurysm with a Stanford type A intramural haematoma: A case report

Kim Y, Lee JY, Lee JS, Ye JB, Kim SH, Sul YH, Yoon SY, Choi JH, Choi H

- 9768** Histiocytoid giant cellulitis-like Sweet syndrome at the site of sternal aspiration: A case report and review of literature

Zhao DW, Ni J, Sun XL

- 9776** Rare giant corneal keloid presenting 26 years after trauma: A case report
Li S, Lei J, Wang YH, Xu XL, Yang K, Jie Y
- 9783** Efficacy evaluation of True Lift®, a nonsurgical facial ligament retightening injection technique: Two case reports
Huang P, Li CW, Yan YQ
- 9790** Synchronous primary duodenal papillary adenocarcinoma and gallbladder carcinoma: A case report and review of literature
Chen J, Zhu MY, Huang YH, Zhou ZC, Shen YY, Zhou Q, Fei MJ, Kong FC
- 9798** Solitary fibrous tumor of the renal pelvis: A case report
Liu M, Zheng C, Wang J, Wang JX, He L
- 9805** Gastric metastasis presenting as submucosa tumors from renal cell carcinoma: A case report
Chen WG, Shan GD, Zhu HT, Chen LH, Xu GQ
- 9814** Laparoscopic correction of hydronephrosis caused by left paraduodenal hernia in a child with cryptorchism: A case report
Wang X, Wu Y, Guan Y
- 9821** Diagnosed corrected transposition of great arteries after cesarean section: A case report
Ichii N, Kakinuma T, Fujikawa A, Takeda M, Ohta T, Kagimoto M, Kaneko A, Izumi R, Kakinuma K, Saito K, Maeyama A, Yanagida K, Takeshima N, Ohwada M
- 9828** Misdiagnosis of an elevated lesion in the esophagus: A case report
Ma XB, Ma HY, Jia XF, Wen FF, Liu CX
- 9834** Diagnostic features and therapeutic strategies for malignant paraganglioma in a patient: A case report
Gan L, Shen XD, Ren Y, Cui HX, Zhuang ZX
- 9845** Infant with reverse-transcription polymerase chain reaction confirmed COVID-19 and normal chest computed tomography: A case report
Ji GH, Li B, Wu ZC, Wang W, Xiong H
- 9851** Pulmonary hypertension secondary to seronegative rheumatoid arthritis overlapping antisynthetase syndrome: A case report
Huang CY, Lu MJ, Tian JH, Liu DS, Wu CY
- 9859** Monitored anesthesia care for craniotomy in a patient with Eisenmenger syndrome: A case report
Ri HS, Jeon Y
- 9865** Emergency treatment and anesthesia management of internal carotid artery injury during neurosurgery: Four case reports
Wang J, Peng YM

- 9873** Resolution of herpes zoster-induced small bowel pseudo-obstruction by epidural nerve block: A case report
Lin YC, Cui XG, Wu LZ, Zhou DQ, Zhou Q
- 9879** Accidental venous port placement *via* the persistent left superior vena cava: Two case reports
Zhou RN, Ma XB, Wang L, Kang HF
- 9886** Application of digital positioning guide plates for the surgical extraction of multiple impacted supernumerary teeth: A case report and review of literature
Wang Z, Zhao SY, He WS, Yu F, Shi SJ, Xia XL, Luo XX, Xiao YH
- 9897** Iatrogenic aortic dissection during right transradial intervention in a patient with aberrant right subclavian artery: A case report
Ha K, Jang AY, Shin YH, Lee J, Seo J, Lee SI, Kang WC, Suh SY
- 9904** Pneumomediastinum and subcutaneous emphysema secondary to dental extraction: Two case reports
Ye LY, Wang LF, Gao JX
- 9911** Hemorrhagic shock due to submucosal esophageal hematoma along with mallory-weiss syndrome: A case report
Oba J, Usuda D, Tsuge S, Sakurai R, Kawai K, Matsubara S, Tanaka R, Suzuki M, Takano H, Shimoizawa S, Hotchi Y, Usami K, Tokunaga S, Osugi I, Katou R, Ito S, Mishima K, Kondo A, Mizuno K, Takami H, Komatsu T, Nomura T, Sugita M
- 9921** Concurrent severe hepatotoxicity and agranulocytosis induced by *Polygonum multiflorum*: A case report
Shao YL, Ma CM, Wu JM, Guo FC, Zhang SC
- 9929** Transient ischemic attack after mRNA-based COVID-19 vaccination during pregnancy: A case report
Chang CH, Kao SP, Ding DC
- 9936** Drug-induced lung injury caused by acetaminophen in a Japanese woman: A case report
Fujii M, Kenzaka T
- 9945** Familial mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episode syndrome: Three case reports
Yang X, Fu LJ
- 9954** Renal pseudoaneurysm after rigid ureteroscopic lithotripsy: A case report
Li YH, Lin YS, Hsu CY, Ou YC, Tung MC

LETTER TO THE EDITOR

- 9961** Role of traditional Chinese medicine in the initiative practice for health
Li Y, Li SY, Zhong Y
- 9964** Impact of the COVID-19 pandemic on healthcare workers' families
Helou M, El Osta N, Husni R

- 9967 Transition beyond the acute phase of the COVID-19 pandemic: Need to address the long-term health impacts of COVID-19

Tsioutis C, Tofarides A, Spernovasilis N

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Yusuf Tutar, PhD, Chairman, Director, Full Professor, Department of Basic Pharmaceutical Sciences, Division of Biochemistry, University of Health Sciences, Istanbul 34668, Turkey. ytutar@outlook.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 abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, PubMed, PubMed Central, Scopus, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The 2022 Edition of Journal Citation Reports® cites the 2021 impact factor (IF) for WJCC as 1.534; IF without journal self cites: 1.491; 5-year IF: 1.599; Journal Citation Indicator: 0.28; Ranking: 135 among 172 journals in medicine, general and internal; and Quartile category: Q4. The WJCC's CiteScore for 2021 is 1.2 and Scopus CiteScore rank 2021: General Medicine is 443/826.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: *Ying-Yi Yuan*; Production Department Director: *Xiang Li*; Editorial Office Director: *Jin-Lei Wang*.

NAME OF JOURNAL

World Journal of Clinical Cases

ISSN

ISSN 2307-8960 (online)

LAUNCH DATE

April 16, 2013

FREQUENCY

Thrice Monthly

EDITORS-IN-CHIEF

Bao-Gan Peng, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku

EDITORIAL BOARD MEMBERS

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

PUBLICATION DATE

September 26, 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>



Laparoscopic correction of hydronephrosis caused by left paraduodenal hernia in a child with cryptorchism: A case report

Xin Wang, Yong Wu, Yong Guan

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

P-Reviewer: Basu S, India; Sultan AAEA, Egypt

Received: April 23, 2022

Peer-review started: April 23, 2022

First decision: June 16, 2022

Revised: July 3, 2022

Accepted: August 15, 2022

Article in press: August 15, 2022

Published online: September 26, 2022



Xin Wang, Yong Wu, Yong Guan, Department of Pediatric Surgery, Tianjin Children's Hospital, Tianjin 300014, China

Corresponding author: Yong Guan, MD, Chief Doctor, Department of Pediatric Surgery, Tianjin Children's Hospital, No. 238 LongYan Road, Tianjin 300134, China.
guan_lab@126.com

Abstract

BACKGROUND

Paraduodenal hernia (PDH) is a mesenteric-parietal hernia with retroperitoneal and retrocolic herniation of the small bowel into a sac, which is formed by a peritoneal fold located near the fourth portion of the duodenum. The present case revealed that PDH was a possible reason for hydronephrosis, and that the careful laparoscopic exploration surgery was necessary to find infrequent causes of hydronephrosis to avoid invalid Anderson-Hynes pyeloplasty surgery and its injury.

CASE SUMMARY

An 8-year-old boy presented to the pediatric department with a chief complaint of cryptorchidism. Afterwards, laparoscopy confirmed hydronephrosis secondary to left PDH with cryptorchid. Then, he received laparoscopic surgery, fixed operation for left PDH, release of the ureteropelvic junction obstruction, and treatment for hydronephrosis. It is necessary to perform secondary surgery for cryptorchidism and long-term follow-up.

CONCLUSION

The case revealed an extremely rare cause of hydronephrosis in children, suggesting a potential correlation between PDH and hydronephrosis.

Key Words: Paraduodenal hernia; Hydronephrosis; Cryptorchidism; Laparoscopic surgery; Case report

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

Core Tip: Paraduodenal hernia (PDH) is a kind of mesenteric-parietal hernia accompanied by retroperitoneal and retrocolic hernia. The small intestine hernia enters the sac, which is formed by peritoneal folds located near the fourth part of the duodenum. The present case revealed that PDH was a possible reason for hydronephrosis, and that the careful laparoscopic exploration surgery was necessary to find infrequent causes of hydronephrosis to avoid invalid Anderson-Hynes pyeloplasty surgery and its injury.

Citation: Wang X, Wu Y, Guan Y. Laparoscopic correction of hydronephrosis caused by left paraduodenal hernia in a child with cryptorchidism: A case report. *World J Clin Cases* 2022; 10(27): 9814-9820

URL: <https://www.wjgnet.com/2307-8960/full/v10/i27/9814.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v10.i27.9814>

INTRODUCTION

Internal hernia refers to the outward protrusion of internal organs through the peritoneum or mesentery, and accounts for less than 1% of all abdominal hernias[1]. Of all the internal hernias, paraduodenal hernia (PDH) is the most common. Left PDH accounts for about 75% of all cases. PDH can cause small bowel obstruction and hydronephrosis[2]. Currently, diagnosing internal hernia is challenging.

Cryptorchidism is a common congenital disease, with an incidence of 2%–5% in male births. When the testis is missing or dysfunctional, the temperature of the inguinal canal and inside the abdomen increases, which harms the germinal epithelium and can lead to malignancy. Only 7% of pediatric patients with inguinal hernia present with cryptorchidism, and PDH combined with cryptorchidism is rare. The present case revealed that PDH was a possible reason for hydronephrosis, and the careful laparoscopic exploration surgery was necessary to find infrequent causes of hydronephrosis to avoid invalid Anderson-Hynes pyeloplasty surgery and its injury.

CASE PRESENTATION

Chief complaints

An 8-year-old boy was admitted to our hospital because of enuresis and missing right testis.

History of present illness

The patient had been diagnosed with cryptorchidism at another hospital.

History of past illness

The boy was healthy.

Personal and family history

The patient had no family history of reproductive and urinary disease.

Physical examination

The body mass index was 14.2 kg/m², and physical and rectal examinations were unremarkable. The left testis was topical without alterations, and the right testis was imperceptible in the scrotum.

Laboratory examinations

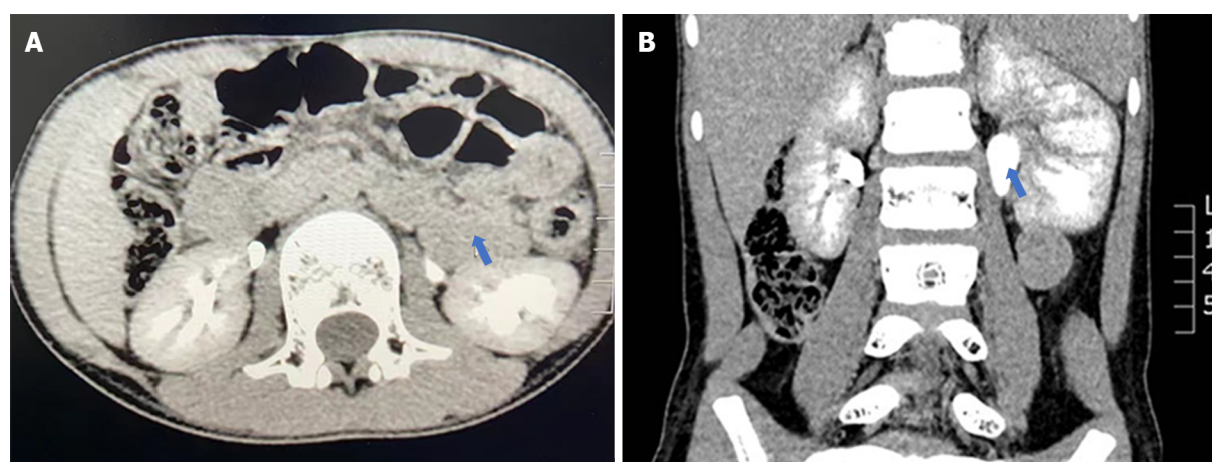
No abnormality was found in routine blood and urine analyses.

Imaging examinations

Urinary B-ultrasound revealed left hydronephrosis. Serum creatinine and blood urea nitrogen levels were normal. Contrast-enhanced computed tomography (CT) confirmed left hydronephrosis and left ureteropelvic junction obstruction (UPJO), but not PDH (Figure 1).

FINAL DIAGNOSIS

Hydronephrosis and cryptorchidism.



DOI: 10.12998/wjcc.v10.i27.9814 Copyright ©The Author(s) 2022.

Figure 1 Contrast-enhanced computed tomography. A: Computed tomography section at the level of renal vessels shows a horseshoe appearance of the bowel loops that contain the jejunal vessels radiating inside the hernial sac; B: Left hydronephrosis.

TREATMENT

Laparoscopic exploration and Anderson-Hynes pyeloplasty are often used for intraoperative diagnosis and correction of UPJO. A 10-mm port was inserted in the infraumbilical direction using the Hasson technique, and the other ports were placed below the umbilicus and epigastric region. Laparoscopic examination showed dilation of the left renal pelvis, and some adjacent intestines and rings surrounding the duodenal recess, forming PDH. The PDH compressed the upper part of the left ureter, causing hydronephrosis (Figure 2).

The small intestine is smaller in patients with PDH than in normal children of the same age, and the hernia can be reduced by incision and traction of the hernia sac. An incision on the hernia sac wall releases the hernia sac. After placing the bowel in the hernia sac at the correct position, we found that the anterior wall of the hernia sac neck (the branches of the inferior mesenteric vein and left colonic artery) blocked the blood supply of some bowel tubes. To make sure that the blood vessel (the branches of the inferior mesenteric vein and left colonic artery) was not necessary, we had been occluding it for 20 min. We made sure that the intestinal color, peristalsis, and blood supply were normal, so the blood vessel was cut off. We concluded that some UPJOs were caused by external compression and did not perform pyeloplasty. No local or systemic complications were noted.

OUTCOME AND FOLLOW-UP

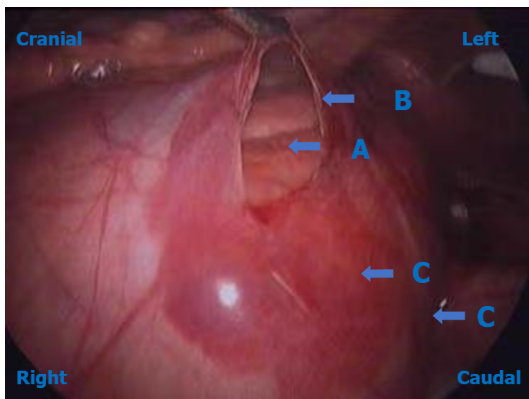
After 12 wk of follow-up, hydronephrosis and calyceal dilatation disappeared. Three months later, the patient underwent laparoscopic testicular descent and fixation under general anesthesia to treat cryptorchidism. Two years later, CT showed that the hydronephrosis had subsided (Figure 3). Blood urea nitrogen and serum creatinine levels were normal.

DISCUSSION

Since PDH was first described in 1857 and classified in 1889[3], studies have shown that poor rotation is a potential mechanism of PDH. Midgut rotation occurs in gestational weeks 5–11, and the mesentery fuses the posterior abdominal structure from the right iliac fossa to the Trez ligament[4,5]. PDH can present as asymptomatic, recurring abdominal pain, or acute obstruction[6].

Left PDH develops secondarily to midgut rotation failure[7], which can lead to small bowel obstruction or other clinical manifestations. It is difficult to diagnose because of complex clinical features[8]. Laboratory tests are of little diagnostic value, and physical examination cannot lead to a diagnosis unless the hernia is sufficiently large to form an abdominal mass. Currently, about 50% of internal hernias are confirmed by imaging examinations, autopsy, or surgeries[9]. Although CT is good for diagnosis of PDH in patients without a specific presentation[10], only 10%–15% of cases are diagnosed preoperatively[11].

Surgical repair is the conventional treatment for left PDH, and approximately 50% of patients present with complications[12]. Surgery resects the ischemic intestinal segment, returns the contents of the hernia to the normal position, and closes the hernia hole. Preventing hernia recurrence remains a



DOI: 10.12998/wjcc.v10.i27.9814 Copyright ©The Author(s) 2022.

Figure 2 Intraoperative image. The patient was lying on the right side while we performed the surgery. The observation hole was near the umbilicus. Intra-operatively, it was observed that small-bowel loops were lying within a hernial sac. The upper end of the ureter was located in the retroperitoneum, behind the hernia sac. The sac was opened with an ultrasonic shear, and the bowel was freed up. The hernia sac compressed the upper ureter of the left ureter and induced hydronephrosis. A: Small intestine; B: Hernia sac; C: Lateral peritoneum.



DOI: 10.12998/wjcc.v10.i27.9814 Copyright ©The Author(s) 2022.

Figure 3 Computed tomography performed 2 years after laparoscopic paraduodenal hernia repair showed that the hydronephrosis was remitted and the paraduodenal hernia had been recovered.

challenge. It is rare to implant prosthesis to repair defects. Mesh implants are used to repair recurrent hernia and large defects[13]. Open surgery was a traditional method for treatment of left PDH. Until 1998, Uematsu *et al*[14] first reported laparoscopic surgery for PDH, which is now often used to diagnose and repair PDH[14].

In this case, the preoperative examination did not reveal the presence of PDH, so we planned to perform laparoscopic pyeloplasty, with an operation time of about 1.5 h. Because the stent needs to be removed again 6-8 wk after pyeloplasty, we planned to perform testicular descent and fixation at the same time during the second stent removal operation, which takes approximately 1 h. Thus, patients do not have to undergo long-term general anesthesia multiple times, and the number of operations does not increase. However, PDH was accidentally found during hydronephrosis surgery. It is inferred that hydronephrosis may be caused by PDH, but the real cause remains to be further discovered. We have never seen the PDH during the operation of hydronephrosis. After observation and analysis during the operation, we concluded that the patient's UPJO was not obvious and the location of the PDH was close to the ureteropelvic junction, so hydronephrosis caused by the compression of the ureteropelvic junction by the PDH was suspected. Although this was not certain, we decided to repair the PDH first to avoid irreversible damage caused by blind treatment of the ureteropelvic junction. The follow-up results confirmed that our decision was correct.

Because we had no previous experience in surgical repair of PDH, the operation was long (about 3 h), and the anesthesia time for the patient was longer than 3 h. The position and incision of testicular descent fixation are quite different from those of PDH surgery. If testicular descent fixation had been performed at this time, the patient would have endured a longer period of general anesthesia and bear the risk of changes in position and incision during the operation. Considering these disadvantages, we decided to wait for the recovery of this operation before performing testicular descent fixation.

Table 1 Cases of left paraduodenal hernia reported in the literature

Ref.	Sex	Age	Size of defect (cm)	Sac excised	Defect closed	Postoperative LOS (d)	Laparoscopy completed
Lee and Choi[15]	F	74	3	N	Y	4	Y
Jeong <i>et al</i> [16]	M	52	5	N	Y	5	Y
Jeong <i>et al</i> [16]	F	58	6	N	Y	5	Y
Cundy <i>et al</i> [17]	M	55	6	N	Y	6	N
Palanivelu <i>et al</i> [18]	M	44	7	N	Y	5	Y
Palanivelu <i>et al</i> [18]	M	49	8	N	Y	2	Y
Palanivelu <i>et al</i> [18]	F	54	9	N	Y	2	Y
Nam <i>et al</i> [19]	M	1	3	N	Y	5	Y
Nam <i>et al</i> [19]	F	12	5	N	Y	5	Y
Fukunaga <i>et al</i> [20]	M	51	5	N	Y	9	Y
Coakley <i>et al</i> [21]	M	25	6	Y	N	3	N
Parmar and Parmar[10]	M	38	8	Y	NM	3	Y
Shoji <i>et al</i> [22]	M	60	3	N	Y	6	Y
Siddika <i>et al</i> [23]	M	35	3	N	Y	6	Y
Khalaileh <i>et al</i> [24]	F	53	4	N	Y	3	Y
Rollins and Glasgow[25]	M	21	4	N	Y	2	Y
Uematsu <i>et al</i> [14]	M	44	5	N	Y	28	Y
Hussein <i>et al</i> [26]	M	59	5	N	Y	3	Y
Moon <i>et al</i> [27]	M	18	2	Y	Y	2	Y
Assenza <i>et al</i> [11]	M	67	3	N	N	4	Y
Uchiyama <i>et al</i> [28]	F	80	5	N	N	3	Y
Kulkarni <i>et al</i> [29]	M	36	4	N	Y	3	Y
Kulkarni <i>et al</i> [29]	M	42	4	Y	Y	3	Y

LOS: Length of hospital stay; F: Female; M: Male; N: No; Y: Yes.

We extracted 23 cases from PubMed, Google Scholar, and Reference Citation Analysis (<https://www.referencecitationanalysis.com/>) databases using the keywords “hydronephrosis,” “PDH,” and “internal hernia,” and found that only two cases required conversion to laparotomy (Table 1). Overall, laparoscopic diagnosis and repair surgery were used to treat left PDH.

In our case, long-term postoperative follow-up showed that hydronephrosis was cured. This finding provides indirect evidence that hydronephrosis is caused by PDH. This case could help to avoid similar surgical risks and introduce a possible cause of hydronephrosis. It revealed that PDH was a possible reason for hydronephrosis. And the careful laparoscopic exploration surgery was necessary to find infrequent causes of hydronephrosis to avoid invalid Anderson-Hynes pyeloplasty surgery and its injury.

CONCLUSION

The case revealed that PDH is a possible reason for hydronephrosis. Laparoscopic exploration is useful for diagnosis and treatment. The careful laparoscopic exploration surgery is necessary to find infrequent causes of hydronephrosis to avoid invalid Anderson-Hynes pyeloplasty surgery and its injury. Attention should be paid to these unusual findings in long-term follow-up studies.

ACKNOWLEDGEMENTS

We thank the patient and all the rest doctors and nurses in our department.

FOOTNOTES

Author contributions: Guan Y wrote this manuscript; Wang X analyzed the data; Wang X, Wu Y, and Guan Y took care of the patient and collected the data; all authors read and approved the final manuscript; Wang X and Guan Y contributed equally to this work.

Informed consent statement: Written informed consent was obtained from the patient's legal guardian for publication of this case report and any accompanying images.

Conflict-of-interest statement: All the authors report no relevant conflicts of interest for this article.

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: Xin Wang 0000-0001-7766-5076; Yong Guan 0000-0001-6711-9813.

S-Editor: Fan JR

L-Editor: Wang TQ

P-Editor: Fan JR

REFERENCES

- Husain A, Bhat S, Roy AK, Sharma V, Dubey SA, Faridi MS. Internal Hernia through Paraduodenal Recess with Acute Intestinal Obstruction: A Case Report. *Indian J Surg* 2012; **74**: 354-355 [PMID: 23904735 DOI: 10.1007/s12262-011-0243-4]
- Winder JS, Pauli EM, Haluck RS. Laparoscopic repair of a left-sided paraduodenal hernia. *Surg Endosc* 2016; **30**: 3636-3637 [PMID: 26558911 DOI: 10.1007/s00464-015-4648-1]
- Schizas D, Apostolou K, Krivan S, Kanavidis P, Katsaros I, Vailas M, Koutelidakis I, Chatzimavroudis G, Pikoulis E. Paraduodenal hernias: a systematic review of the literature. *Hernia* 2019; **23**: 1187-1197 [PMID: 31006063 DOI: 10.1007/s10029-019-01947-3]
- Akbulut S. Unusual cause of intestinal obstruction: left paraduodenal hernia. *Case Rep Med* 2012; **2012**: 529246 [PMID: 22474457 DOI: 10.1155/2012/529246]
- Manfredelli S, Andrea Z, Stefano P, Giovanni L, Maria M, Angelo F, Alberto A, Renato M. Rare small bowel obstruction: Right paraduodenal hernia. Case report. *Int J Surg Case Rep* 2013; **4**: 412-415 [PMID: 23500746 DOI: 10.1016/j.ijscr.2012.11.027]
- Yun MY, Choi YM, Choi SK, Kim SJ, Ahn SI, Kim KR. Left paraduodenal hernia presenting with atypical symptoms. *Yonsei Med J* 2010; **51**: 787-789 [PMID: 20635458 DOI: 10.3349/ymj.2010.51.5.787]
- Tărcoveanu E, Angelescu N. A European surgeon: Thoma Ionescu (Thomas Jonnesco)--founder of the Romanian school of surgery (1860-1926). *Acta Chir Belg* 2009; **109**: 824-828 [PMID: 20184082 DOI: 10.1080/00015458.2009.11680550]
- Kabbani D, Salem A, Holloway DK. Paraduodenal herniation: An internal herniation in a virgin abdomen. *Int J Surg Case Rep* 2014; **5**: 1148-1150 [PMID: 25437660 DOI: 10.1016/j.ijscr.2014.11.021]
- Kuzinkovas V, Haghighi K, Singhal R, Andrews NJ. Paraduodenal hernia: a rare cause of abdominal pain. *Can J Surg* 2008; **51**: E127-E128 [PMID: 19057724]
- Parmar BP, Parmar RS. Laparoscopic management of left paraduodenal hernia. *J Minim Access Surg* 2010; **6**: 122-124 [PMID: 21120072 DOI: 10.4103/0972-9941.72601]
- Assenza M, Rossi D, Rossi G, Reale C, Simonelli L, Romeo V, Guerra F, Modini C. Laparoscopic management of left paraduodenal hernia. Case report and review of literature. *G Chir* 2014; **35**: 185-189 [PMID: 25174294]
- Falk GA, Yurcisin BJ, Sell HS. Left paraduodenal hernia: case report and review of the literature. *BMJ Case Rep* 2010; **2010** [PMID: 22797200 DOI: 10.1136/bcr.04.2010.2936]
- Fukada T, Mukai H, Shimamura F, Furukawa T, Miyazaki M. A causal relationship between right paraduodenal hernia and superior mesenteric artery syndrome: a case report. *J Med Case Rep* 2010; **4**: 159 [PMID: 20507590 DOI: 10.1186/1752-1947-4-159]
- Uematsu T, Kitamura H, Iwase M, Yamashita K, Ogura H, Nakamuka T, Oguri H. Laparoscopic repair of a paraduodenal

- hernia. *Surg Endosc* 1998; **12**: 50-52 [PMID: [9419303](#) DOI: [10.1007/s004649900591](#)]
- 15 **Lee SE**, Choi YS. Left paraduodenal hernia combined with acute cholecystitis. *Ann Surg Treat Res* 2014; **86**: 217-219 [PMID: [24783182](#) DOI: [10.4174/ast.2014.86.4.217](#)]
- 16 **Jeong GA**, Cho GS, Kim HC, Shin EJ, Song OP. Laparoscopic repair of paraduodenal hernia: comparison with conventional open repair. *Surg Laparosc Endosc Percutan Tech* 2008; **18**: 611-615 [PMID: [19098672](#) DOI: [10.1097/SLE.0b013e3181825733](#)]
- 17 **Cundy TP**, Di Marco AN, Hamady M, Darzi A. Giant left paraduodenal hernia. *BMJ Case Rep* 2014; **2014** [PMID: [24792018](#) DOI: [10.1136/bcr-2013-202465](#)]
- 18 **Palanivelu C**, Rangarajan M, Jategaonkar PA, Anand NV, Senthilkumar K. Laparoscopic management of paraduodenal hernias: mesh and mesh-less repairs. A report of four cases. *Hernia* 2008; **12**: 649-653 [PMID: [18465192](#) DOI: [10.1007/s10029-008-0376-y](#)]
- 19 **Nam SH**, Kim KW, Kim JS, Kim KH, Park SJ. Laparoscopic treatment of left paraduodenal hernia in two cases of children. *Int J Surg Case Rep* 2012; **3**: 199-202 [PMID: [22466109](#) DOI: [10.1016/j.ijscr.2012.02.007](#)]
- 20 **Fukunaga M**, Kidokoro A, Iba T, Sugiyama K, Fukunaga T, Nagakari K, Suda M, Yosikawa S. Laparoscopic surgery for left paraduodenal hernia. *J Laparoendosc Adv Surg Tech A* 2004; **14**: 111-115 [PMID: [15107222](#) DOI: [10.1089/109264204322973907](#)]
- 21 **Coakley BA**, Froylich D, Wong R, Khaitov S. Repair of primary bowel obstruction resulting from a left paraduodenal hernia. *Am Surg* 2012; **78**: E422-E424 [PMID: [22964186](#)]
- 22 **Shoji T**, Nishiyama R, Oba K, Azuma M. Left paraduodenal hernia successfully treated with laparoscopic surgery: a case report. *Case Rep Gastroenterol* 2007; **1**: 71-76 [PMID: [21487549](#) DOI: [10.1159/000107595](#)]
- 23 **Siddika A**, Coleman AH, Pearson TE. Laparoscopic repair of left paraduodenal hernia. *J Surg Case Rep* 2013; **2013** [PMID: [24964323](#) DOI: [10.1093/jscr/rjt079](#)]
- 24 **Khalailah A**, Schlager A, Bala M, Abu-Gazala S, Elazary R, Rivkind AI, Mintz Y. Left laparoscopic paraduodenal hernia repair. *Surg Endosc* 2010; **24**: 1486-1489 [PMID: [20054582](#) DOI: [10.1007/s00464-009-0794-7](#)]
- 25 **Rollins MD**, Glasgow RE. Left paraduodenal hernia. *J Am Coll Surg* 2004; **198**: 492-493 [PMID: [15008162](#) DOI: [10.1016/J.jamcollsurg.2003.07.025](#)]
- 26 **Hussein M**, Khreiss M, Al-Helou G, Alaeddine M, Elias E, Abi Saad GS. Laparoscopic repair of a left paraduodenal hernia presenting with acute bowel obstruction: report of a case. *Surg Laparosc Endosc Percutan Tech* 2012; **22**: e28-e30 [PMID: [22318073](#) DOI: [10.1097/SLE.0b013e31823f3798](#)]
- 27 **Moon CH**, Chung MH, Lin KM. Diagnostic laparoscopy and laparoscopic repair of a left paraduodenal hernia can shorten hospital stay. *JSLS* 2006; **10**: 90-93 [PMID: [16709368](#)]
- 28 **Uchiyama S**, Imamura N, Hidaka H, Maehara N, Nagaike K, Ikenaga N, Hotokezaka M, Chijiwa K. An unusual variant of a left paraduodenal hernia diagnosed and treated by laparoscopic surgery: report of a case. *Surg Today* 2009; **39**: 533-535 [PMID: [19468812](#) DOI: [10.1007/s00595-008-3875-7](#)]
- 29 **Kulkarni GV**, Salgaonkar HP, Sharma PC, Chakkarvarty NR, Katara AN, Bhandarkar DS. Laparoscopic repair of left paraduodenal hernia: Report of two cases and review of the literature. *Asian J Endosc Surg* 2016; **9**: 157-160 [PMID: [27117968](#) DOI: [10.1111/ases.12270](#)]



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>

