

CLINICAL IMAGE

Pyonephrosis drained by double-J catheter

Che-Wei Chang^{1,2,3}  | Chun-Nung Huang^{1,4}

¹Department of Urology, School of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

²Department of Urology, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

³Department of Urology, Kaohsiung Municipal Siaogang Hospital, Kaohsiung, Taiwan

⁴Department of Urology, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung, Taiwan

Correspondence

Chun-Nung Huang, Department of Urology, School of Medicine, Kaohsiung Municipal Ta-Tung Hospital, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan.

Email: cnhuang.uro@gmail.com

Abstract

An infectious disease with obstructive hydronephrosis, pyonephrosis causes suppurative destruction of the renal parenchyma. In such cases, retrograde ureteric stenting is considered a good choice for the drainage of pyonephrosis, as an alternative to percutaneous nephrostomy and nephrectomy. The complication rate is minimal in retrograde ureteric stenting compared with about 4% in percutaneous nephrostomy.

KEYWORDS

double-J catheter, hydronephrosis, pyonephrosis, ureteric stent

1 | CASE SUMMARY

A 74-year-old woman presented to the emergent department with high fever and bilateral flank pain. Her medical history showed up cervical cancer, for which she had had radical hysterectomy, lymphadenectomy, and salpingo-oophorectomy. Clinicians then performed regular double-J catheter revision on the patient due to bilateral ureteral stricture.

A subsequent examination went on to reveal tenderness on tapping the costovertebral angle. Urinalysis revealed pyuria, leukocytosis (white-cell count of 16 650 mm³), elevated C-reactive protein levels (212.2 mg/L), hyperkalemia (5.2 mmol/L), and deteriorated renal function (eGFR:12.61 mL/min/1.73 m²). Computational tomography of the abdomen showed persistent bilateral hydronephrosis (Figure 1). Cystoscopy revealed turbid urine because the right double-J catheter, placed 3 months previously, had been

dislodged. On this basis, bilateral double-J stenting was performed to revise the last. Following this, pus-like material drained from a side hole of the double-J stent, confirming the diagnosis of pyonephrosis (Figure 2, Video S1). Continuous bladder irrigation was done, along with the drainage of the double-J catheter. The patient's condition gradually improved, until she was discharged.

Pyonephrosis is an infectious disease usually accompanied by obstructive hydronephrosis, which causes the suppurative destruction of the renal parenchyma. Retrograde ureteric stenting is a good choice for the drainage of pyonephrosis, as an alternative to percutaneous nephrostomy and nephrectomy.¹ Both retrograde ureteric stenting and percutaneous nephrostomy are comparably effective in the decompression and resolution of sepsis. The complication rate of retrograde ureteric stenting is minimal, but for percutaneous nephrostomy, it is about 4%.²

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2020 The Authors. *Clinical Case Reports* published by John Wiley & Sons Ltd.

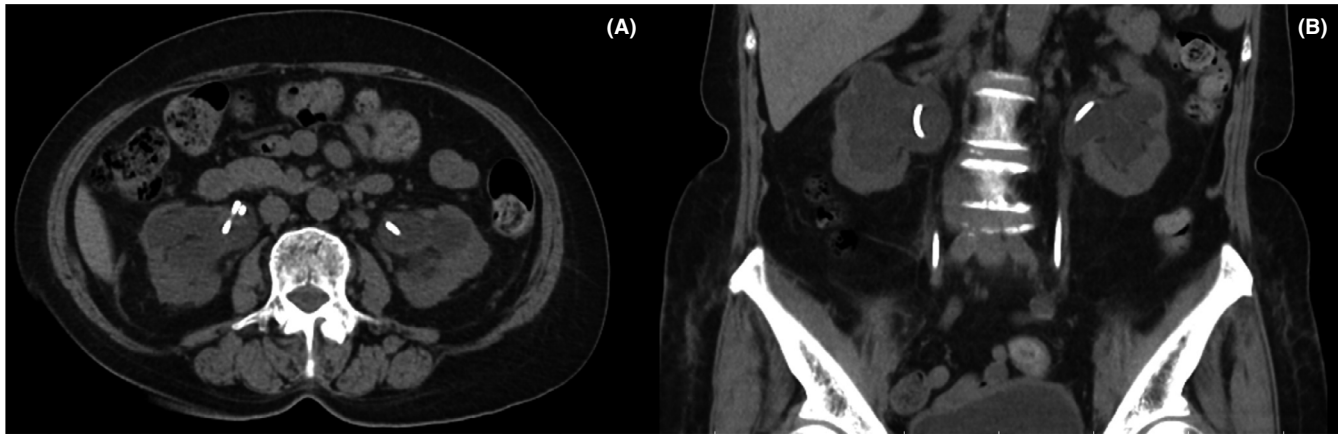


FIGURE 1 Abdomen computational tomography revealed bilateral pyonephrosis and hydronephrosis with previous double-J catheters. A, axial view and (B) coronal view

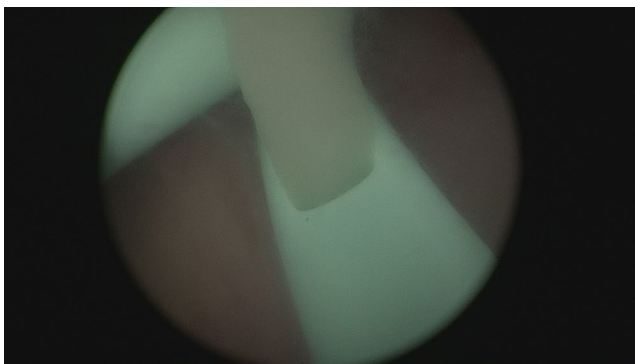


FIGURE 2 Pus-like material drained from a side hole of right double-J catheter, confirming the diagnosis of pyonephrosis

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

CNH: performed the surgery. CWC: reviewed this case and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Approval for the study was obtained from the institutional review board of Kaohsiung Municipal Ta-Tung Hospital.

CONSENT FOR PUBLICATION

Informed consent was obtained from the patient for the publication of this case report.

DATA AVAILABILITY STATEMENT

The authors do not wish to share the patient's data. The privacy of this participant should be protected.

ORCID

Che-Wei Chang  <https://orcid.org/0000-0003-1206-4733>

REFERENCE

1. Flukes S, Hayne D, Kuan M, Wallace M, McMillan K, Rukin NJ. Retrograde ureteric stent insertion in the management of infected obstructed kidneys. *BJU Int.* 2015;115(Suppl 5):31-34.
2. Ramsey S, Robertson A, Ablett MJ, Meddings RN, Hollins GW, Little B. Evidence-based drainage of infected hydronephrosis secondary to ureteric calculi. *J Endourol.* 2010;24(2):185-189.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

How to cite this article: Chang C-W, Huang C-N. Pyonephrosis drained by double-J catheter. *Clin Case Rep.* 2020;8:3585–3586. <https://doi.org/10.1002/ccr3.3204>