CASE REPORT PEER REVIEWED | OPEN ACCESS

Beyond the norm: "Pyoperitoneum—A rare complication of pyonephrosis"

Papadopoulos Triantafillos, Kypraios Charalampos, Gianniris Nikolaos, Xoxakos Ioannis, Karamanolakis Dimitrios, Efthimiou Ioannis

ABSTRACT

Introduction: Intraperitoneal rupture of pyonephrosis is an infrequent but serious medical condition, characterized by the escape of pus from a purulent renal collecting system into the peritoneal cavity.

Case Report: In this case report we present a 79-year-old male patient with a history of a hydronephrotic, functioning kidney and recent urinary tract infection, which complicated into pyonephrosis and pyoperitoneum.

Conclusion: This clinical case serves as a reminder of the importance of early recognition of the condition and emphasizes prompt management to prevent potentially life-threatening complications.

Keywords: Hydronephrosis, Peritonitis, Pyonephrosis, Pyoperitoneum

How to cite this article

Papadopoulos T, Kypraios C, Gianniris N, Xoxakos I, Karamanolakis D, Efthimiou I. Beyond the norm: "Pyoperitoneum—A rare complication of pyonephrosis". J Case Rep Images Urol 2025;10(1):10–12.

Article ID: 100051Z15PT2025

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Received: 10 November 2024
Accepted: 28 December 2024
Published: 22 January 2025

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doi: 10.5348/100051Z15PT2025CR

INTRODUCTION

Intraperitoneal rupture of pyonephrosis is an infrequent medical condition characterized by the escape of pus from a filled renal collecting system into the peritoneal cavity [1]. This condition typically arises from severe kidney infections of obstructive uropathy, leading to the accumulation of pus in the renal collecting system [2]. Prompt diagnosis and intervention are crucial in managing intra-abdominal rupture of pyonephrosis to prevent more serious complications and ensure optimal patient outcomes [3].

CASE REPORT

A 79-year-old male patient presented to our hospital with a 20-day history of weight loss and malaise. On clinical examination, the patient was afebrile, hemodynamically stable, and experiencing right lumbar pain. He reported a history of a previous lower urinary tract infection two weeks ago, which was treated with oral antibiotics. The patient had a history of congenital non-functioning right kidney. Laboratory tests revealed mild anemia, leukocytosis, and an elevated C-reactive protein (CRP). Abdominal ultrasound revealed an enlarged right kidney with loss of renal parenchyma filled with hyperechoic fluid. The patient was admitted to receive intravenous fluids and antibiotics and was scheduled for placement of a right kidney nephrostomy tube. Shortly after the admission, his condition deteriorated and he complained of severe abdominal pain with generalized tenderness and guarding. An emergency abdominal computed tomography scan was performed (Figure 1), which showed right kidney dilation with loss of renal parenchyma, and free intraperitoneal fluid in the right subhepatic space and right paracolic gutter. The patient

was transferred to the operating room for an exploratory laparotomy to rule out other serious intra-abdominal pathologies. Intraoperatively, the entire abdominal cavity was filled with purulent material and 2 L of pus were aspirated. No intraperitoneal pathology was found on exploration. An area of fistulization with pus was found on the right side of the posterior peritoneum. The ascending colon was mobilized, and a simple nephrectomy was performed. Copious peritoneal lavage was performed. Drains were placed accordingly: one in the renal fossa and another in the Douglass space. The patient had an uneventful recovery and was discharged after removal of the drains, on the 12th postoperative day.

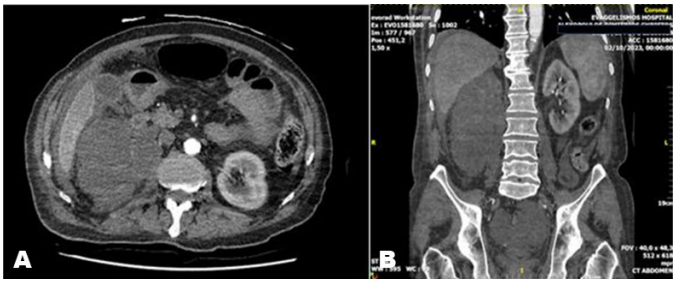

Figure 1: CT scan after intravenous (IV) contrast injection. (A) Right pyonephrosis. (B) Coronal view of intraperitoneal fluid collection along the right subhepatic space and right paracolic gutter.

DISCUSSION

This case report highlights a rare but potentially life-threatening complication of pyonephrosis with pyoperitoneum due to spontaneous rupture of the renal capsule and peritoneum into the peritoneal cavity. Many etiologies can be involved, especially ureteral calculi, tumors, and in exceptional cases, ureteropelvic junction syndrome [3–5]. Our patient had a history of congenital non-functioning and hydronephrotic right kidney, complicated by a lower urinary tract infection. A similar case report without any obstructing pathology and with a functional kidney has already been presented by Jalbani et al. [4].

CONCLUSION

Concomitant pyonephrosis with pyoperitoneum is extremely rare. Early diagnosis and aggressive surgical treatment are of paramount importance to prevent more serious complications.

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Author Contributions

Papadopoulos Triantafillos – Acquisition of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Kypraios Charalampos – Analysis of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Gianniris Nikolaos – Acquisition of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Xoxakos Ioannis – Analysis of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Karamanolakis Dimitrios – Interpretation of data,, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Efthimiou Ioannis – Conception of the work, Design of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

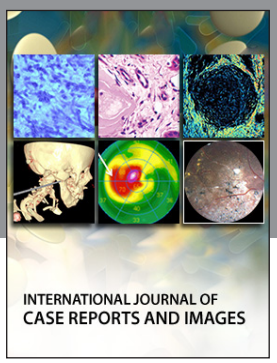
Guarantor of Submission
The corresponding author is the guarantor of submission.

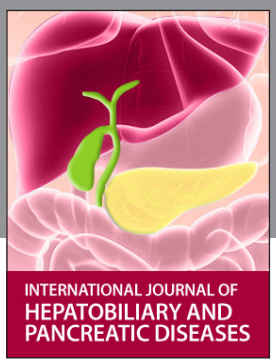
Source of Support
None.

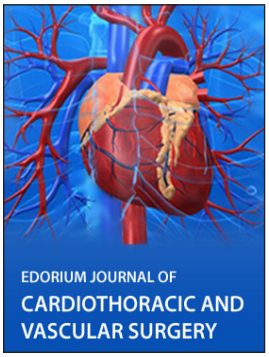
Consent Statement
Written informed consent was obtained from the patient for publication of this article.

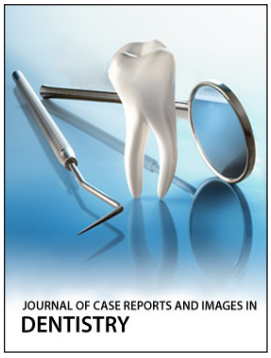
Conflict of Interest
Authors declare no conflict of interest.

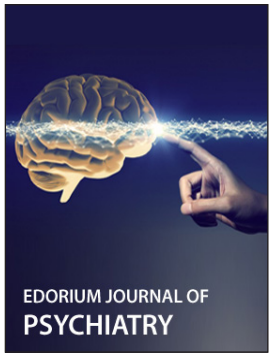
Data Availability
All relevant data are within the paper and its Supporting Information files.

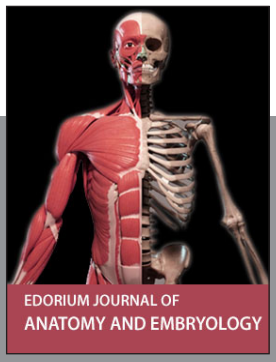


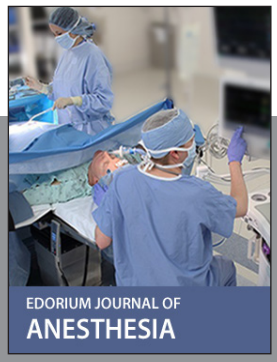












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