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High-grade fever and gas region of bladder lumen on abdominal computed tomography

Yasuyuki Taooka, Junya Inata, Hiroyuki Ito

CASE REPORT

An 80-year-old woman being treated for type 2 diabetes mellitus was admitted to our hospital with two days history of severe lower abdominal pain and high-grade fever. Physical examination at that time showed a body temperature of 39.5°C, blood pressure of 122/70 mmHg, heart rate of 110 beats per minute, respiratory rate of 18 breaths per minute, and intact level of consciousness. Abdominal muscular defense was not observed. Blood tests revealed a white blood cell count of 9860/μL, C-reactive protein of 2.0 mg/dL, HbA1c of 7.1%, and blood glucose of 334 mg/dL. Urine test showed proteinuria with moderate hematuria. Thickened bladder wall and gas region of bladder lumen were visible on plain abdominal computed tomography (CT) (Figure 1A). But, ascites, free-air, or ileus was not observed. This case was diagnosed as emphysematous cystitis. Complication of emphysematous pyelonephritis was not observed. Ampicillin sodium/sulbactam sodium (9.0 g per day) for 10 days was administered. Then a balloon catheter was placed in the bladder to avoid bladder rupture and preventively manage emphysematous cystitis. Urine culture revealed *Escherichia coli* as the pathogen. 10 days after treatment, ampicillin sodium/sulbactam sodium and balloon bladder catheter placement were discontinued. She was discharged 14 days after admission. Abdominal CT scan four weeks after discharge showed improvement of emphysematous cystitis (Figure 1B).

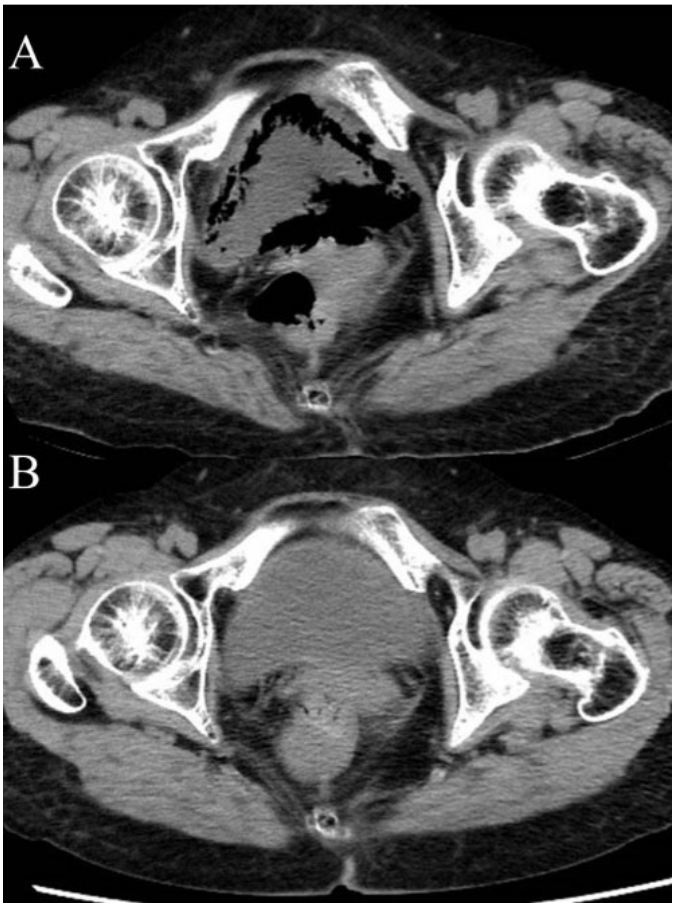

Figure 1: Plain abdominal CT: (A) On plain abdominal CT images, thickened bladder wall, and circumferentially gas region of bladder lumen were observed. (B) CT image four weeks after discharge showed improvement of emphysematous cystitis.

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DISCUSSION

Emphysematous cystitis is a rare disease, and is known as one of complications of diabetes mellitus [1, 2]. In general, high fever is not seen in acute cystitis, but half of cases of emphysematous cystitis show high fever as in this case [1]. According to previous reports, the mortality rate for emphysematous cystitis is about 7% when it progresses to septic conditions [2]. And abdominal pain is

known as one of the major symptoms of emphysematous cystitis [2, 3], and peritoneal irritation is seen in 6.2% of patients [4]. The specific feature of the present case was presence of severe lower abdominal pain, high-grade fever, and circumferentially gas region of bladder lumen on CT images. As the differential diagnosis, ruling out of acute peritonitis was required. In this case, a gas image localized around wall of the bladder was observed, but free-air or ascites was not seen in the abdominal cavity. We have reported a similar case in the past [1]. However, unlike previous report, early diagnosis could be confirmed by abdominal CT. In addition, we demonstrated that conservative treatment improved CT findings. Grupper et al. reported that CT was the most sensitive and specific diagnostic tool [4].

CONCLUSION

We report a rare case of emphysematous cystitis. Emphysematous gas within bladder on CT images was characteristic finding and helped the early diagnosis in the present case.

Keywords: Acute cystitis with high fever, Diabetes mellitus, *Escherichia coli*, Urinary tract infection

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REFERENCES

1. Taooka Y, Inata J, Yoke H, Takata Y, Ito H. High-grade fever and unique shaped gas in pelvic region. Int J Case Rep Images 2020;11:101177Z01YT2020.
2. Thomas AA, Lane BR, Thomas AZ, Remer EM, Campbell SC, Shoskes DA. Emphysematous cystitis: A review of 135 cases. BJU Int 2007;100(1):17–20.
3. Galiano Baena JF, Caballero Romeu JP, Galán Llopis JA, Leivar Tamayo A, Lobato Encinas JJ. Emphysematous cystitis. Case report and review of literature. [Article in Spanish]. Actas Urol Esp 2008;32(9):948–50.
4. Grupper M, Kravtsov A, Potasman I. Emphysematous cystitis: Illustrative case report and review of the literature. Medicine (Baltimore) 2007;86(1):47–53.

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Author Contributions

Yasuyuki Taooka – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting 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

Junya Inata – Interpretation of data, 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

Hiroyuki Ito – Interpretation of data, Drafting 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

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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.