

INTRODUCTION

Emphysematous cystitis is a potentially life-threatening complicated acute urinary tract infection with a mortality rate of up to 7-10%. It is often reported in elderly with history of diabetes. Early diagnosis and intervention with antibiotics can avoid complications like progression to emphysematous pyelonephritis or need for surgical intervention like bladder debridement or partial or total cystectomy.

AIMS / OBJECTIVES

To highlight the role of point-of-care ultrasound (POCUS) in the rapid diagnosis of emphysematous cystitis, emphasizing its utility in emergency settings.

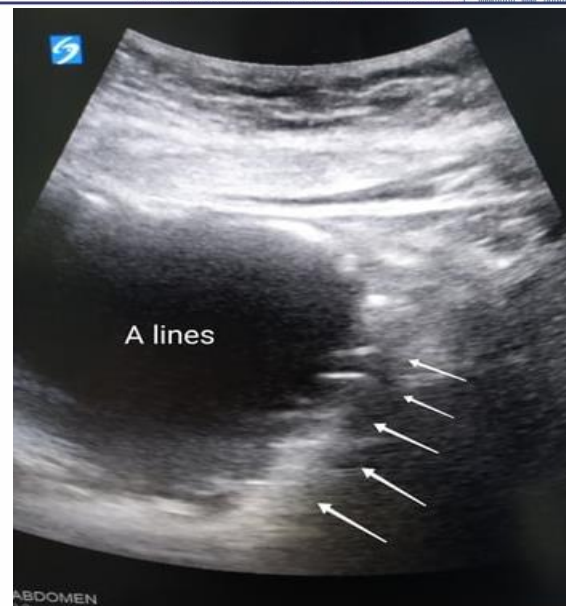
METHODS

A 79-year-old woman presented with fever, dysuria, abdominal pain, and vomiting, with a background of poorly controlled diabetes, chronic kidney disease, and heart failure.

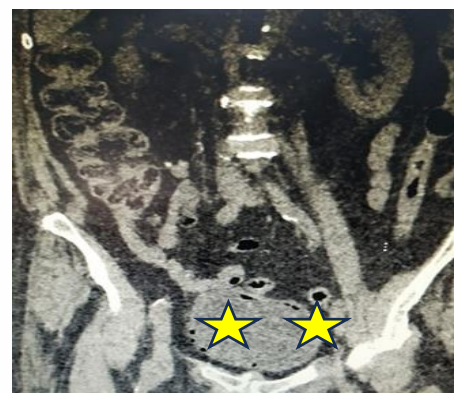
On examination, she was conscious and orientated, pyrexial with tachycardic, hypotensive, with normal saturation in room air. Her lower abdomen was tender, maximally in the suprapubic region. Venous blood gas had normal p H with base excess of minus 4 and lactate of 3 mmol/L. Point-of-care ultrasound was done by the emergency physician to look for evidence of urinary retention, assess for signs of cystitis like sedimentation within the bladder and examine the upper renal tracts for hydronephrosis.

RESULTS

Incidentally, POCUS revealed several A lines in the bladder wall which had loss of well-defined borders. There was evidence of sedimentation in the bladder. Given that there was no history of instrumentation or catheterization, these findings were concerning for emphysematous cystitis. The patient had an urgent computed tomography (CT) scan abdomen & pelvis which confirmed gas locules in the bladder wall consistent with emphysematous cystitis. There was no evidence of upper urinary tract dilatation or gas.



The patient was managed along standard sepsis guidelines with intravenous antibiotics and fluids. Her hemodynamics stabilized and she was admitted under urology team.



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GAS in UB

DISCUSSION

This is one of the first case reports from an emergency department that have demonstrated A-lines in the bladder wall, in a confirmed case of emphysematous cystitis.

A-lines are horizontal, equidistant air reverberation artefacts, commonly seen in thoracic ultrasound. Previously abdominal A-lines have been used to diagnose pneumoperitoneum.

CONCLUSION

In this rare case, localized A-lines in the bladder wall with dirty shadowing artefact of bladder wall on point-of-care ultrasonography, with associated sonographic (like sedimentation and debris within bladder) and clinical signs of cystitis raised the suspicion of emphysematous cystitis. This led to prompt treatment with antibiotics and early definitive imaging.

REFERENCE

