The Scanner: Uncommon Cause of Acute Delirium

Inderpal Singh1*, Priya Fernando1, Andrew Morley2, Serah Koshi1 and Jacob Daniel1
1Department of Geriatric Medicine, Ysbyty Ystrad Fawr, Aneurin Bevan University Health Board, Wales, UK
2Consultant Radiologist, Aneurin Bevan University Health Board, Wales, UK

*Corresponding author: Inderpal Singh, Consultant Geriatrician, Department of Geriatric Medicine, Ysbyty Ystrad Fawr, Ystrad Mynach, Aneurin Bevan University Health Board, Wales, UK, Tel: 01443802205; Fax: 0144380243; E-mail: inder.singh@wales.nhs.uk

Rec date: Jan 06, 2016; Acc date: Feb 09, 2016; Pub date: Mar 12, 2016

Keywords Older people; Atypical presentation; Delirium; Acute abdomen; Cystitis

Introduction

Delirium is an acute confusional state and is a common clinical syndrome characterised by altered conscious level, cognitive function or perception, which has an acute onset and fluctuating course. It is usually secondary to underlying medical illnesses including infection, pain, dehydration, acute coronary syndrome, bowel ischaemia, constipation, hypoxia or polypharmacy and develops over 1-2 days. Delirium is more common in persons with pre-existing dementia. It can be challenging to find the underlying cause of delirium on few occasions and if not recognised, can result in poor outcomes [1]. The aim of this case report is to ensure that rare causes of delirium are explored to enhance the medical care of the acutely ill older person.

Case report

An 84 years old man presented to the hospital with non-specific abdominal pain, acute confusion, generally unwell and not able to cope at home. He had a past medical history of hypertension, stroke, atrial fibrillation and osteoarthritis. He lived with his wife at home and was independent with activities of daily living and mobility. He has not been to the hospital for many years. He did not have any history of diabetes mellitus, urinary tract infections or symptoms of bladder outflow obstruction.

On examination, he was febrile with a temperature of 38°C and tender palpable bladder. His chest was clear and he was in atrial fibrillation with the fast ventricular rate. Blood tests showed evidence of raised inflammatory markers with acute kidney injury on a background of chronic kidney disease. He had a positive urine dip and urine culture showed E. coli with RBC >1000. His blood culture was also positive for E. coli, confirming septicemia.

He was reviewed by acute surgical and intensive care team and had plain abdominal radiograph followed by a CT scan of the abdomen (Figures 1-3).
Our patient was a non-diabetic male who initially responded well to antibiotics and regained good functional abilities with rehabilitation. However, he had recurrent urinary tract infections along with left loin pain and blocked catheter and thus worsening of renal functions. He needed repeated courses of antibiotics. In view of this, he had repeat CT urogram 8 weeks later which showed a gross left hydrenephrosis with dilated ectatic left ureter and 2.6 cm exophytic mass on left kidney margin suggestive of a renal tumour (Figure 4). This case was discussed in the urology multidisciplinary meeting and due to associated frailty, co-morbidities and delirium, medical treatment with palliative care was agreed.

EC is a rare clinical condition characterized by pockets of gas in and around the bladder wall [5,6]. Patients may complain of lower abdominal pain or lower urinary tract symptoms. Pneumaturia if ever reported can be highly suggestive of the diagnosis of EC. EC is reported commonly in the older women with uncontrolled diabetes mellitus and also associated with urinary stasis, neurogenic bladder and in renal transplant recipients [7]. The most common organism is E. coli [8]. Other organisms include Enterobacter aerogenes, Klebsiella pneumonia, Proteus, Staphylococcus aureus, streptococci, Clostridium perfringens [9], and Candida albicans [10].

Delayed diagnosis in such cases could result in further complications including infection to ureters and renal parenchyma, bladder rupture and death. This can be avoided by the early diagnosis supported by appropriate radiological investigations and prompt antibiotic therapy [2].

The strength of this case report is that it explores the rare cause of acute delirium in an older non-diabetic patient. We acknowledge the weakness as only one case has been discussed. We suggest further epidemiological and clinical case series from multiple centres to be evaluated to explore risk factors and clinical outcomes of EC.

**Conclusion**

Emphysematous cystitis is a rare medical condition and often missed on routine biochemical or clinical examination. Older people with acute delirium, presenting atypically with tender palpable bladder, EC should be considered as one of the differential diagnosis and clinicians should have a very low threshold to request appropriate radiological investigations.
References

1. Yasumoto R, Asakawa M, Nishisaka N (1989) Emphysematous cystitis. Br J Urol 63: 644.
2. Bobba RK, Arsura EL, Sarna PS, Sawh AK (2004) Emphysematous cystitis: an unusual disease of the Genito-Urinary system suspected on imaging. Ann Clin Microbiol Antimicrob 3: 20.
3. Fong TG, Jones RN, Marcantonio ER, Tommet D, Gross AL, et al. (2012) Adverse outcomes after hospitalization and delirium in persons with Alzheimer disease. Ann Intern Med 156: 848-856.
4. Salluh JI, Wang H, Schneider EB, Nagaraja N, Yenokyan G, et al. (2015) Outcome of delirium in critically ill patients: systematic review and meta-analysis. BMJ 350: h2538.
5. Quint HJ, Drach GW, Rappaport WD, Hoffmann CJ (1992) Emphysematous cystitis: a review of the spectrum of disease. J Urol 147: 134-137.
6. Thomas AA, Lane BR, Thomas AZ, Remer EM, Campbell SC, et al. (2007) Emphysematous cystitis: a review of 135 cases. BJU Int 100: 17-20.
7. Akalin E, Hyde C, Schmitt G, Kaufman J, Hamburger RJ (1996) Emphysematous cystitis and pyelitis in a diabetic renal transplant recipient. Transplantation 62: 1024-1026.
8. Bailey H (1961) Cystitis emphysematosa; 19 cases with intraluminal and interstitial collections of gas. Am J Roentgenol Radium Ther Nucl Med 86: 850-862.
9. West TE, Holley HP Jr, Lauer AD (1981) Emphysematous cystitis due to Clostridium perfringens. JAMA 246: 363-364.
10. Bartkowski DP, Lanesky JR (1988) Emphysematous prostatitis and cystitis secondary to Candida albicans. J Urol 139: 1063-1065.