POCUS Use in a Boarding ER Led to Expedited Care in a Cancer Patient: A Case Report

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Introduction

"According to the American College of Emergency Physician, "the number of patients "boarding" or held in the Emergency Department while waiting for care, has reached a crisis level"(1). Boarding is nationwide and has shown to have bad patient outcome. Given limited resources, providers may need to get creative to find the sickest patients.

Point-of-Care Ultrasound (POCUS) has been used in critical care for years and can be used to rapidly diagnosis life threatening conditions and guide emergent decisions (2).

Live imaging allows immediate diagnosis leading to rapid intervention and improved patient outcomes. Although, POCUS has been around for many years, its use in patients with cancer is limited (3).

Case Description

A 63-year-old male with past medical history of Prostate cancer with prostatectomy presented to the Emergency Room (ER) with shortness of breath, abdominal pain, and hematuria.

Vitals notable for hypothermia and tachycardia.

Physical exam was positive for abdominal guarding and suprapubic tenderness. Male GU exam reveals normal genitalia with foley in place draining concentrated brown urine. No clots.
Given suspicion for severe sepsis, lab work was ordered for evaluation. Computed tomography (CT) ordered to evaluate for post-surgical changes, however given the numbers of boarded patients and wait times, imaging would be delayed. POCUS performed instead at bedside demonstrated abnormal fluid collections surrounding the decompressed bladder. Intravenous antibiotics started but definitive source control needs to be performed.

Labs reveal leukocytosis of 21, stable hemoglobin 13.2, and evidence of acute kidney injury. Urine studies reveal alkalotic, turbid colored urine with proteinuria, blood, and leukocyte esterase with microscopy revealing triple phosphate crystals. No red blood cells

POCUS

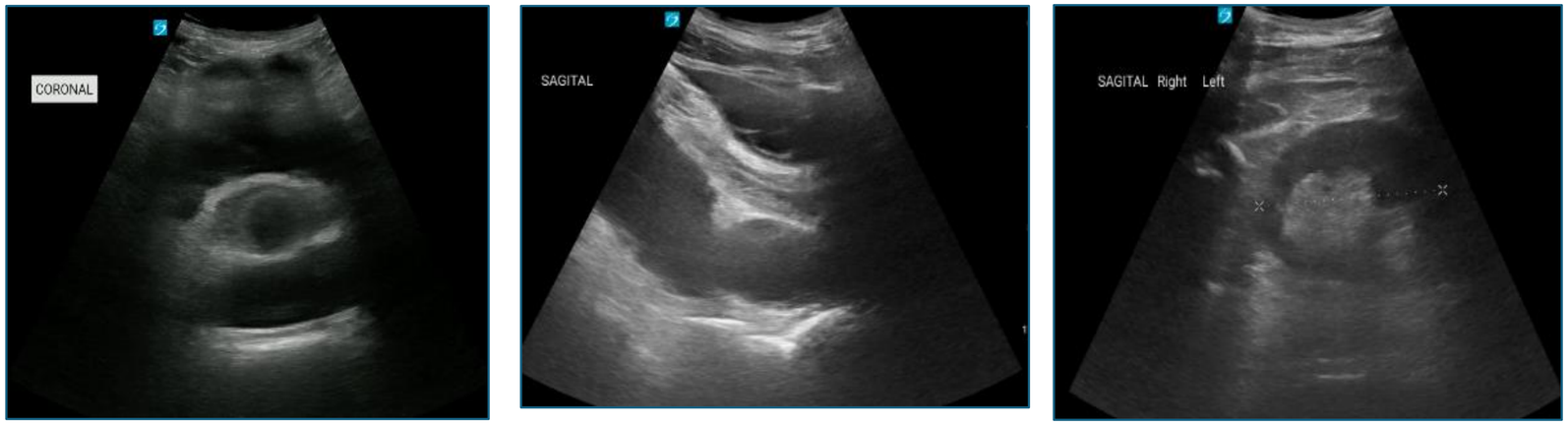

Figure 1: POCUS of Bladder and Kidney
Coronal view of Bladder (left), Sagittal view of Bladder (middle): Abnormal fluid collection surrounding decompressed bladder. Sagittal view of L kidney (Right): Hyperechogenicity noted possible posterior acoustic shadowing

CTAP/Urogram

Figure 2: CTAP/CT Urogram:
Revealed large complex fluid collection with contrast from the cystogram in the surgical bed with extraperitoneal pelvic fluid collections seen anteriorly, posteriorly, and laterally.

Discussion

Emergency Rooms handle countless acutely ill patients, often facing delays due to patient backlog and long CT wait times that has now gotten worse due to the boarding situation. Here is a case presentation, in which early POCUS, allowed expedited CT imaging prompting timely Urology and Interventional Radiology involvement.
Imaging confirmed a urethrovesical fistula anastomotic leak with a Proteus infection. This case underscores the vital role of bedside ultrasonography in emergency care, particularly in busy boarded ER.

References

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