



Brief clinical history:

A 76-year-old woman with a history of moderate aortic stenosis and functional single kidney patient (with atrophic right kidney due to staghorn lithiasis), with recurrent urinary tract infections; that goes to the Emergency Department (ED) for deterioration of the general condition of days of evolution, accompanied by pain in the right renal fossa and swelling at that level, without fever or associated micturition syndrome.

Misleading elements:

We present the case of a patient seen in the ED for clinical suspicion of acute pyelonephritis. Point-of-care ultrasound (POCUS) allowed an early recognition of renal abscess and immediate treatment, drastically reducing morbidity and mortality from this infection. We used a Sonosite M-Turbo, with convex probe C60e/5-2MHz.



Figure 1: A complete unstructuring of the architecture of the affected kidney is observed, with cortical anechoic image that causes posterior acoustic shadow.

Helpful details:

On physical examination, hemodynamically stable, afebrile, with acceptable general condition and pain when the right lower abdomen is palpated, with a fluctuating tumor without erythema or local heat. Laboratory results showed: Hemoglobin of 5.6 gr/dl, 10800 leukocytes/mm3, CRP 304 mg/dl, and 150 leukocytes/field in the urinalysis. Bedside ultrasound performed by the Emergency Physician ([figure 1](#)) showed a right unstructured kidney, observing several anechoic images in the cortical zone that cause acoustic shadow, and dilatation of the renal pelvis, all of which are compatible with an evolved renal abscess ([figure 2](#)). The diagnosis was confirmed by abdominopelvic computed tomography (CT), detecting a right posterior pararenal collection. After starting treatment with Ertapenem and transfusion of 4 packed red blood cells, percutaneous collection drainage was performed under local anesthesia, with drainage of purulent content, subsequently isolating in the culture of material obtained multisensible Escherichia coli. After 4 weeks of admission and confirming good symptomatic evolution and disappearance of the abscess in control CT, the patient was discharged from hospital.

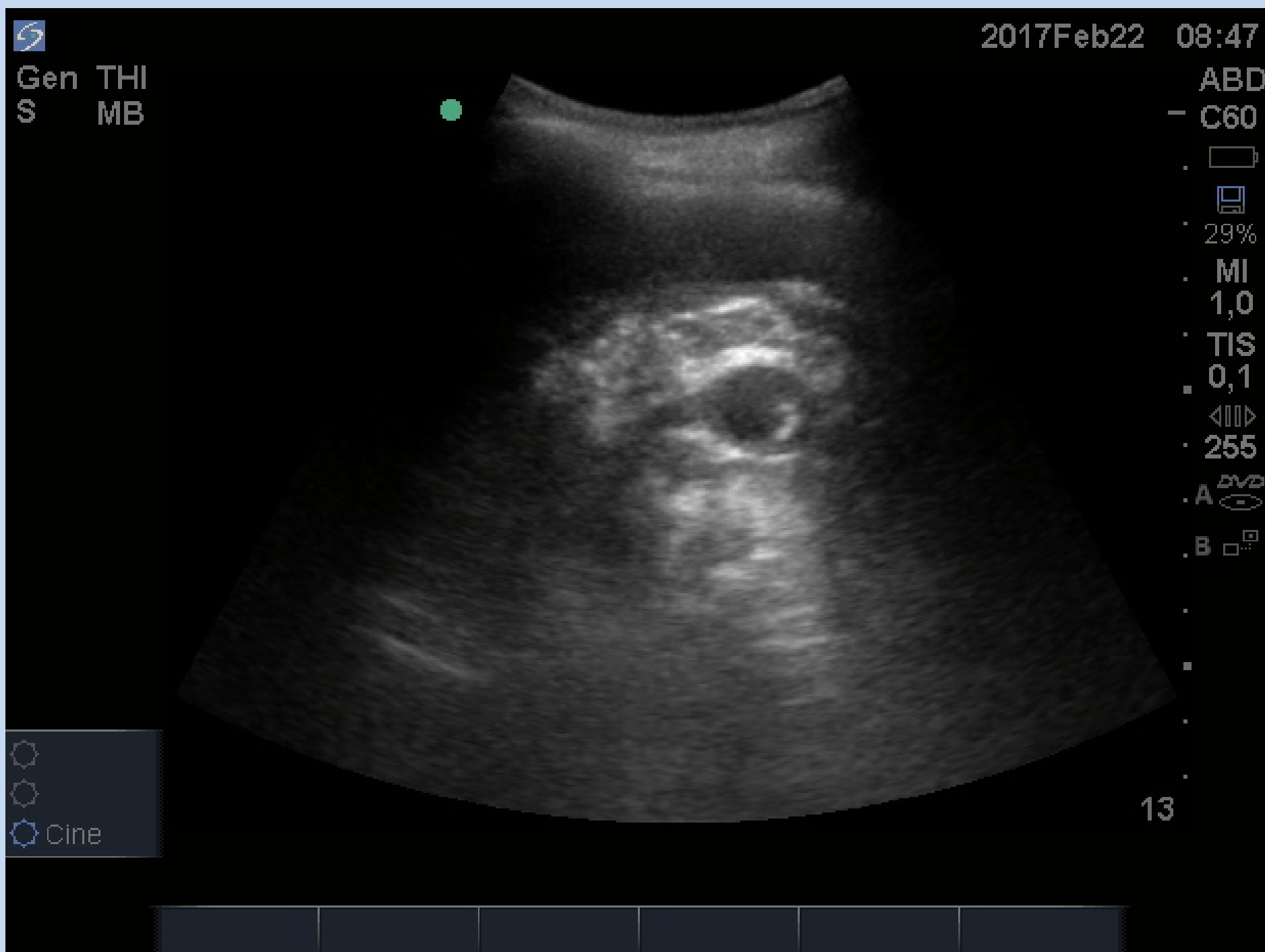


Figure 2: Another sonographic section of the kidney, in which we see a rounded image, with well-defined edges and echogenic content inside.

Differential and actual diagnosis:

Several conditions may mimic pain a renal abscess such as: acute pyelonephritis complicated with papillary necrosis, emphysematous pyelonephritis, renal tuberculosis, renal cell carcinoma, acute cholecystitis or acute appendicitis. Here, we report a case of a patient with renal abscess in an atrophic right kidney due to staghorn lithiasis and recurrent urinary tract infections.

Educational and/or clinical relevance:

Renal and perinephric abscesses are infrequent infections of the urinary tract. Its variable and insidious clinical presentation makes it difficult and delays its diagnosis due to its vague symptomatology. Epidemiologically, there is a predominance in women older than 50 years, and diabetes mellitus and renal lithiasis are the most frequent diseases associated. The most frequently isolated microorganisms are Escherichia coli and Staphylococcus aureus. An early diagnosis and its appropriate treatment would reduce its morbidity and mortality. Although CT is the test of choice for its diagnosis, clinical ultrasound performed by emergency physicians trained in this technique is a diagnostic tool for high efficiency and low cost for the detection of renal abscess. POCUS is a fundamental procedure in the care practice of emergency medicine.