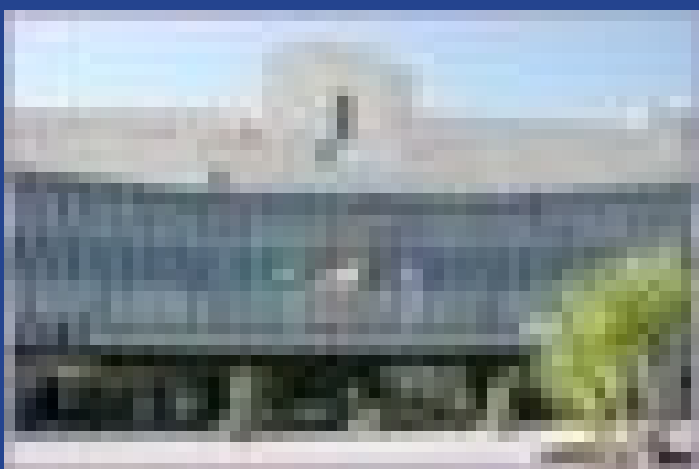




Brief clinical history:

A 50-year-old man with no history of interest, went to the Emergency Department (ED) for pain in the left flank and vomiting, without fever. Two days ago he had been diagnosed with renal colic (RC) and on the abdominal radiograph showed a lithiasis in the upper third of the left ureter, microscopic hematuria in the urinalysis, without alterations in renal function or increase in acute phase reactants or other findings of interest. In the last hours, he had suffered a significant clinical worsening with increased pain despite analgesia.

Misleading elements:

We present the case of a patient treated in the ED for RC and kidney stones diagnosed by bedside ultrasound. Being RC frequent clinical manifestation of kidney stones and frequent cause of consultation in the ED of the Hospital, an early diagnosis with point of care ultrasound (POCUS) performed by emergency physician (EP) plays an important role in the clinical management and can avoid later complications, which demonstrates the utility of POCUS in a patient with renal colic. We used a Sonosite M-Turbo, with convex probe C60e / 5-2MHz.

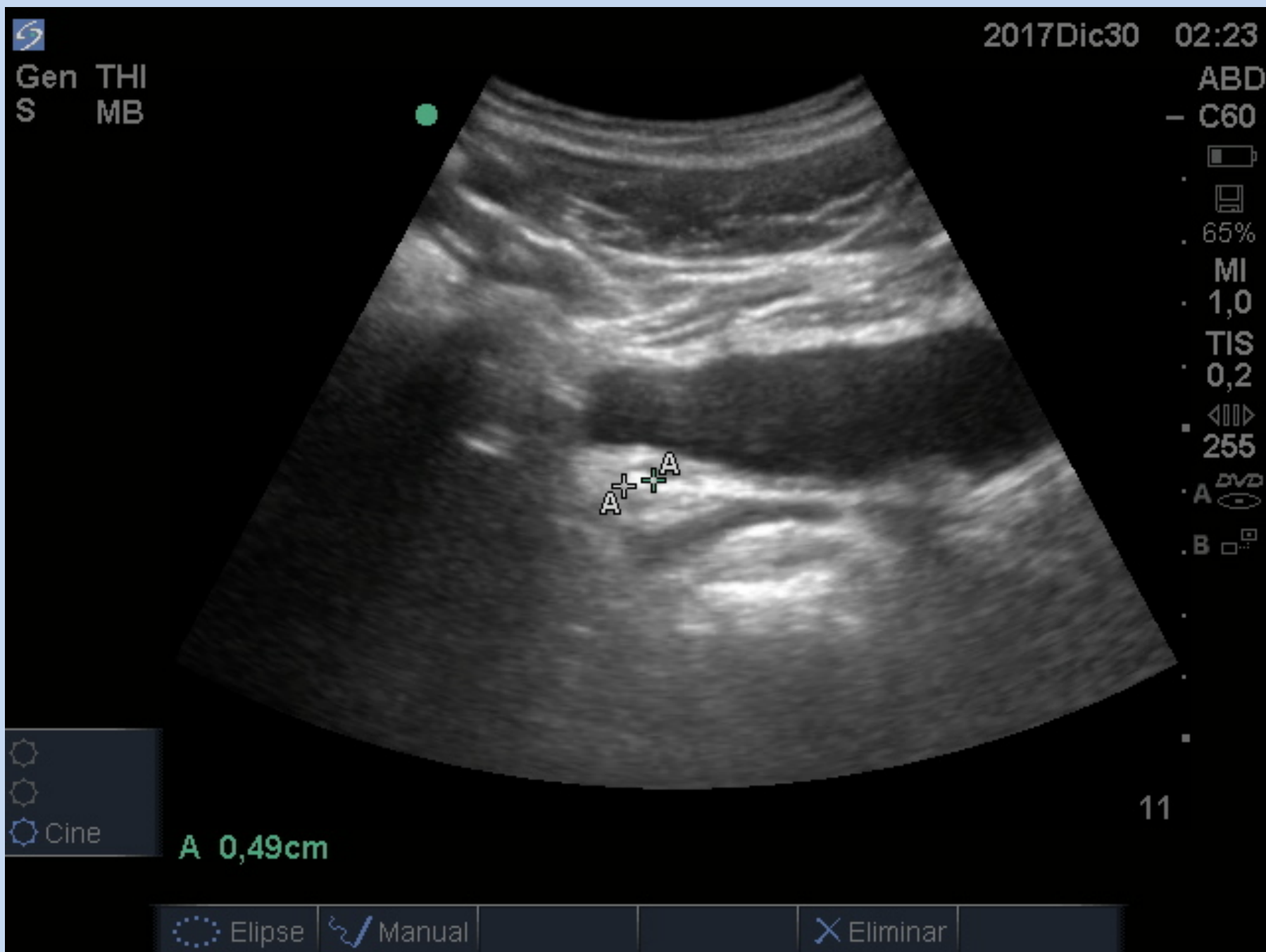
Helpful details:

The EP performed a bedside ultrasound on suspicion of complicated renal colic (figure 1), visualizing in the right distal ureter, a hyperechoic image with posterior acoustic shadow of 4.9 mm compatible with lithiasis and moderate uretero-hydronephrosis (figure 2), confirmed later with by abdominal-pelvic computed tomography.



Figure 1: POCUS showing moderate uretero-hydronephrosis of the right kidney

Figure 2: POCUS visualizing a hyperechoic image in the right distal ureter with posterior acoustic shadow, with 4.9 mm, compatible with lithiasis



The patient was admitted to the Urology Department after failure of conservative treatment. He was treated with extracorporeal shockwave lithotripsy. The clinical improvement was immediate, with a satisfactory evolution and without complications.

Differential and actual diagnosis:

Several conditions can mimic flank pain caused by nephrolithiasis: pyelonephritis, ectopic pregnancy, rupture or torsion of an ovarian cyst, dysmenorrhea, aortic aneurysm, acute intestinal obstruction, diverticulitis or appendicitis, biliary colic and cholecystitis, acute mesenteric ischemia, herpes zoster, or rarely renal cell carcinoma. Here, we report a case of a patient with renal colic and kidney stones.

Educational and/or clinical relevance:

In most patients, the RC diagnosis is clinical, and although the use of clinical ultrasound in the emergency services is more widespread, it would be clearly indicated in cases of acute lumbar pain suspected of RC, with fever, single kidney or pain refractory to treatment, or cases of atypical clinical presentation, to rule out other processes (acute aortic syndrome, appendicitis, diverticulitis, ectopic pregnancy, salpingitis, ...). POCUS by EP is a rapid, portable, inexpensive diagnostic method without ionizing radiation and does not require administration of iodinated contrast. It allows the detection of lithiasis (including radiolucent lesions not visible by simple radiology) and the degree of dilatation of the excretory pathway above the obstruction point. It also detects other diseases of the excretory, renal or extrarenal structures that can simulate RC. For this reason, bedside ultrasound performed by an EP with training and experience should be used in the assessment of patients with flank pain and suspected nephritic colic.