

### Brief clinical history:

Bedside ultrasound is being used with increasing frequency by emergency physicians as goal-directed examinations meant to answer specific questions. In patients with abdominal pain, ultrasound can be used to rapidly determine the presence or absence of an abdominal aortic aneurysm, gallstones, hydronephrosis, and intra-abdominal hemorrhage, etc. The use of ultrasound by emergency physicians in Spain is progressively rising, more and more emergency departments have ultrasound machines and more and more doctors are trained in its use in emergencies settings. The aim of this case report is to demonstrate the utility of point of care ultrasound (POCUS) in a patient with hematuria.

### Misleading elements:

We present the case of a patient who goes to the emergency department for hematuria, and thanks to POCUS, an early diagnosis of bladder cancer is made. We used a Sonosite M-Turbo, with convex probe C60e/5-2MHz.

### Helpful details:

A 68-year-old man, hypertensive and diabetic, smoker of 40 cigarettes/day, who goes to the emergency department because he has had self-limited episodes of intermittent hematuria for several days, with no other accompanying symptoms.

### Helpful details:

The emergency doctor performed a clinical ultrasound, observing a polypoid lesion measuring 2.01 x 1.71 cm on the lateral wall of the bladder. The patient was referred to the urology department, who finally performed a transurethral resection along with chemotherapy pre and post-intervention.



**Figure 1 :** Bladder transversal view with a polypoid lesion measuring 2.01 x 1.71 cm on the lateral wall of the bladder

### Differential and actual diagnosis:

The causes of hematuria vary with the age, with the most common being inflammation or infection of the prostate or bladder, stones, and in older patients, a kidney or urinary malignancy or bening prostatic hyperlasia. The actual diagnosis is bladder cancer.

### Educational and/or clinical relevance:

In the presence of sudden macroscopic hematuria we must always bear in mind the possibility of a neoformation, since it is the most frequent symptom. Bladder cancer ranks 4th among cancers affecting men and thirteenth in women, with the incidence three times higher in men. It is very important post-transurethral resection control before the possibility of relapse, every 3 months during the first year. On the other hand, there is evidence to suggest that smokers have a three times higher risk of developing invasive bladder cancer than non-smokers, and stopping smoking can reduce this risk, so the population should be made aware of it.

The incorporation of POCUS in emergency departments, and training in ultrasound of emergency physicians should be one of the objectives to be achieved by different health systems in the coming years, given that it is an instrument that would greatly help measured in the difficult process of decision making. Ultrasound in the emergency room could offer greater diagnostic guidance for our patients, who, when assessed together with the signs and symptoms that were emerging, could shorten waiting times and, ultimately, even favor the early diagnosis of cancer; avoiding serious consequences and providing greater clinical safety to the patient, as in the case we present.