

Brief clinical history:

The use of point-of-care ultrasonography is a mandatory component of Emergency Medicine residency training, and Emergency Physicians (EP) are increasingly using this technology for procedural guidance. Abdominal paracentesis is commonly performed for diagnostic, therapeutic, and palliative indications, but the use of ultrasound guidance for these procedures is relatively recent, variable, and not well documented. A retrospective database analysis of abdominal paracentesis procedures was performed to determine whether ultrasound guidance was associated with differences in adverse events or hospital costs, compared to procedures without ultrasound guidance. The use of ultrasound guidance in abdominal paracentesis procedures is associated with fewer AEs and lower hospitalization costs than procedures where ultrasound is not used. On the other hand, ultrasound further increases its usefulness in those patients who have undergone multiple paracentesis or in those who, due to their own oncological disease, produce intra-abdominal adhesions.

The aim of this case report is to demonstrate the usefulness of ultrasound-guided paracentesis (UGP) in palliative patients, subjected to multiple paracentesis and with a large number of adhesions, in ED.

Misleading elements:

Case report of an UGP in a patient with pancreatic cancer in stage 4, in palliative treatment, and with multiple abdominal adhesions.

Helpful details:

A 44 years old man, with end-stage pancreatic cancer, in palliative treatment, and with multiple abdominal adhesions, which located the ascites at the epigastric level, compressing the stomach, that caused a lot of nausea and vomiting continuously. The EP performed an UGP in the epigastrium, safely, being able to locate with precision the best puncture point, delimiting the ascites to tension contained by the adhesions and assessing previously that there were no sensitive structures in the area.



Figure 1: The EP performed an UGP in the epigastrium, safely, being able to locate with precision the best puncture point, delimiting the ascites to tension contained by the adhesions and assessing previously that there were no sensitive structures in the area.

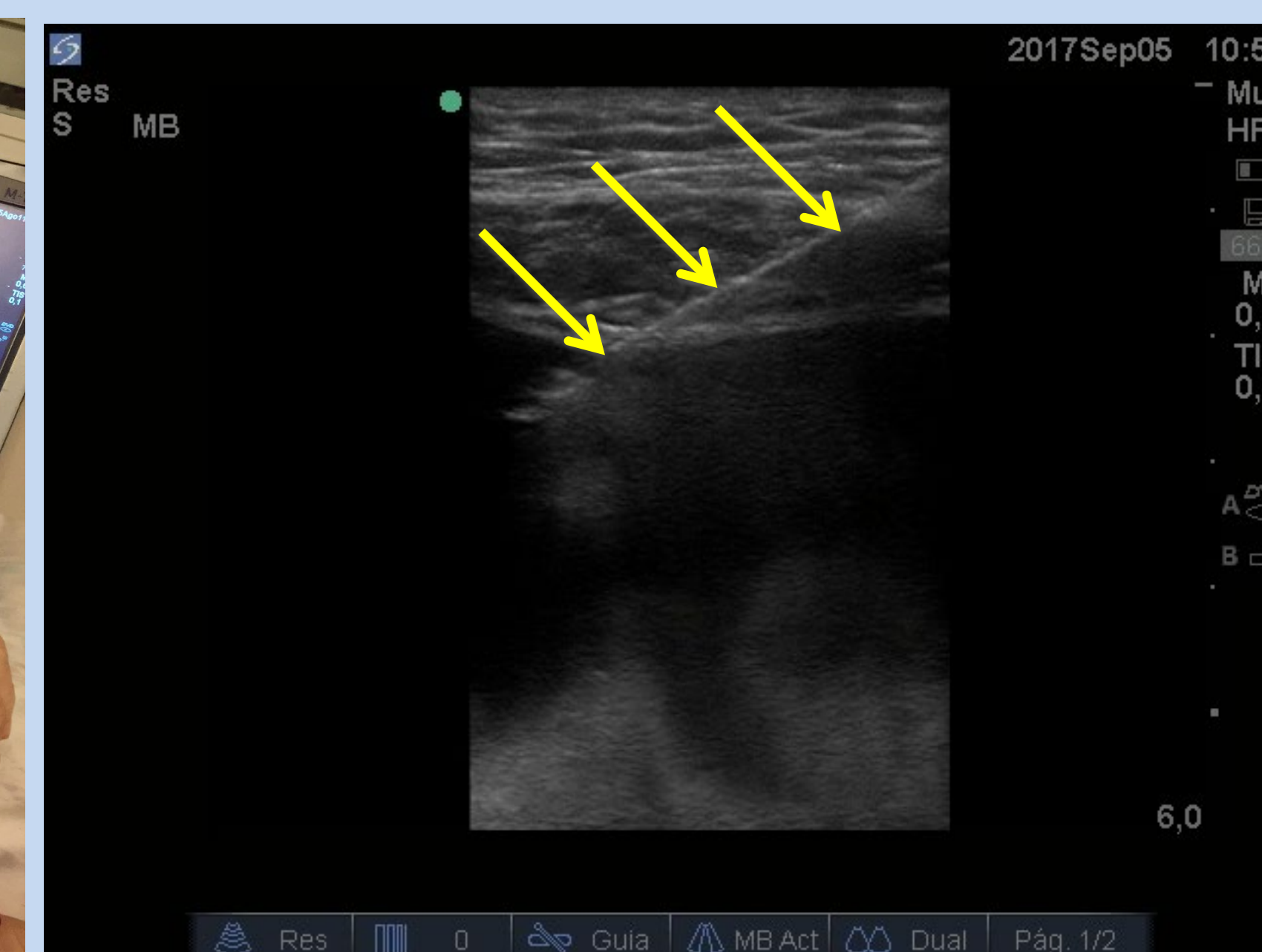


Figure 2: ultrasound-guided paracentesis in which we can observe the needle (yellow arrows) crossing the abdominal wall, and the tip of the needle located already inside the patient's ascitic fluid.

Differential and actual diagnosis:

The differential diagnosis of ascites includes abdominal obesity, giant ovarian or mesenteric cyst, and bowel obstruction (mechanical or functional). These entities can easily be differentiated from ascites using ultrasound.

Educational and/or clinical relevance:

EP have provided palliative care to patients in their daily practice since the inception of the speciality. Performance of limited bedside ultrasound is an established component of modern emergency practice. One accepted indication is the guidance of invasive procedures, including those for draining fluid collections from body cavities. On the other hand Policy statements and clinical policies are the official policies of the American College of Emergency Physicians and published in 2017 “Ultrasound Guidelines: Emergency, Point-of-Care and Clinical Ultrasound Guidelines in Medicine” [*Ann Emerg Med.* 2017;69:e27-e54.] where it is explained that ultrasound guided procedures provide safety to a wide variety of procedures from vascular access (eg, central venous access) to drainage procedures (eg, thoracentesis, pericardiocentesis, paracentesis, arthrocentesis) to localization procedures like US guided nerve blocks. These procedures may provide additional benefits by increasing patient safety and treating pain without the side effects of systemic opiates. Despite the potential benefit of this procedure, UGP have yet to be instituted as a routine technique in EDs. Therefore, the authors suggest that EP should be trained in UGP, as well as in other ultrasound-guided techniques, which have shown an important benefit for our patients.