

### **Bowel Ultrasound for Acute Diverticulitis - Technical Aspects in Three Different Clinical Settings**

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#### **Abstract**

Acute diverticulitis is a frequent complication in patients with colonic diverticulosis. The diagnosis is based on the clinical presentation, biological markers and imaging. Abdominal ultrasonography is, in many centers, the first examination in patients presenting with abdominal pain. Bowel ultrasonography has the advantage of being an inexpensive, non-ionizing, readily available and repeatable examining method, but needs an experienced operator, and it is, thus, not widely used in clinical practice. We present a case series of acute diverticulitis, using bowel ultrasonography to establish the diagnosis in three different clinical settings: uncomplicated diverticulitis, abscess complicated diverticulitis and neoplasia associated diverticulitis. The patients were examined at admission, abdominal pain being the main symptom. The ultrasound examination started with a 3-5 MHz probe as in the case of classic ultrasound, followed by a 5-11 MHz probe examination that allowed adequate investigation of the bowel loops and establishing a diagnosis of acute diverticulitis based on ultrasonographic criteria. All patients had the diagnosis confirmed by a computer tomography scan and subsequently underwent antibiotic treatment. All patients had ultrasonographic characteristics suggesting parietal inflammation, overlapping with the lesions observed at CT scan which were indicative of acute diverticulitis. Both imaging techniques were able to show complications and extraintestinal alterations. Abdominal ultrasound is the imaging method most frequently used in patients presenting with abdominal pain. By using the appropriate transducer, acute diverticulitis and complications could be accurately diagnosed.

**Key words:** diverticular disease, diverticulitis, bowel ultrasonography