

Diagnosis and management of Crohn's disease

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Diagnosis and management of Crohn's disease is based on clinical signs and symptoms combined with laboratory tests, endoscopy and imaging techniques. Endoscopy is the gold standard for the evaluation of patients with Crohn's disease. Nevertheless, a correct diagnosis requires radiological examinations to define the extent and stage of the disease and especially to diagnose transmural complications including fistulae, abscesses and phlegmons. Computed tomography (CT) and magnetic resonance imaging (MRI) are currently indicated in the study of the gastrointestinal tract. Diagnostic sensitivity and specificity of these two methods are similar and both also present certain limitations. CT is widely used and execution time is short, whereas MRI is much less common and requires a longer execution time. However, patients with Crohn's disease are often young, and the frequency with which they have to undergo radiological examinations should be taken into account, as several trials have suggested that a total exposure to radiation exceeding 50 mSv carries a risk of neoplastic disease.

Over the past decade, ultrasound (US) has gradually been introduced to support clinical examination in the diagnosis and monitoring of patients with Crohn's disease.

Several trials have assessed the diagnostic accuracy of US compared to that of CT and MRI, and the results have led to the recommendations contained in the updated

guidelines (2013) of the European Crohn's and Colitis Organisation (ECCO).

The role of endoscopy and biopsy as first-line procedures in patients with suspected Crohn's disease is reaffirmed, and CT and MRI still remain the gold standard imaging methods in the diagnosis of intestinal involvement and transmural lesions. However, US is recommended for assessing the extent of the disease and possible inflammation of the intestinal wall, particularly referred to bowel segments, which are not reachable by the endoscope owing to strictures. Furthermore, thanks to the widespread availability and short examination time, US imaging is useful also in emergencies to obtain immediate and important diagnostic information required for management decisions.

The ECCO guidelines also focus attention on the role of US in the diagnosis of extramural complications. Abscesses, fistulas and phlegmons are frequent and sometimes fatal, but they are easily detected by US with a sensitivity of over 90 %.

Several applications are still being assessed, and some studies show a greater diagnostic efficacy of contrast enhanced US (CEUS) and small intestine contrast ultrasonography (SICUS) associated with power Doppler in the diagnosis of the disease and its complications. These results, as well as the encouraging results obtained by US imaging for predicting the risk of recurrence after surgery, require further confirmation. However, the obtained data suggest that US imaging could be further implemented in the study of Crohn's disease and that this diagnostic method might become a procedure of choice in inflammatory bowel disease (IBD).

The limitations of US imaging, which are linked to the patient's bodily features and the difficult visualization of some portions of the GI tract, are not relevant to the study of Crohn's disease. US has become one of the most user-

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and patient-friendly methods for assessment of the gastrointestinal tract thanks to the elevated dynamism and usability of US as well as the continuous training of increasingly specialized US operators.

In line with the multidisciplinary approach, which is characteristic of SIUMB, the society and JUS have therefore requested some of the greatest experts to write a series of articles on the role of US in the study of various medical, surgical and radiological aspects of Crohn's disease,

comparing US with other diagnostic methods. We thank the Authors for the time they have dedicated to this task and for the completeness and originality of the articles.

In our opinion, the result is very good. We hope you will enjoy the reading.

Conflict of interest The authors declare that they have no conflict of interest.