

# Evaluation of Diagnostic Performance in Patients with Ischemic Colitis by Transabdominal Ultrasonography

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## Abstract

**Purpose:** The purpose of this study was to evaluate diagnostic performance of ultrasonography (US) in ischemic colitis (IC) patients retrospectively.

**Subjects and Methods:** From June 2010 to Dec, 2011, 110 patients (43 man, 67 woman) with complaints of abdominal pain, diarrhea, and/or melena underwent US and subsequently colonoscopy (CS) on the same day. US was performed systematically for the colon after the surveillance of upper abdominal organs. Difference in wall thickness in the left-side colon and the low echogenic submucosal layer compared to the muscularis propria were detected as US findings of IC. When the wall was thicker than 4 mm was considered as pathologically thickened. Final diagnosis was made by CS and/or pathology and stool culture.

**Results:** Forty-seven patients (42.7%) were diagnosed as having IC. The mean wall thickness was  $7.7 \pm 1.9$  mm and the diameter was  $18.8 \pm 3.4$  mm. The diagnostic rates of US were, sensitivity 83%, specificity 96%, accuracy 90.9%, positive predictive value 95.1%, and negative predictive value 88.4%.

**Discussion:** The diagnostic accuracy of US was good as 90.9%. False negative cases were seen mostly in the sigmoid colon. It was caused by difficulty of observing entire sigmoid colon, because of interference of internal air and stool, and variety of colon length and location. Slight lesions were not detected in four patients. False positive cases were seen in 13 patients in the rectum. Due to collapse of intestinal lumen of the sigmoid colon, pseudo-wall thickness was seen in 1 patient.

**Conclusion:** The diagnostic performance of US of IC was good. US can be employed for patients suspected having IC.

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## Keywords

ultrasound, colonoscopy, ischemic colitis

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