

Relazione conclusive della Borsa di studio finalizzata alla ricerca clinica e sperimentale nel campo delle malattie croniche intestinali, nell'ambito del progetto: "ACCURATEZZA DIAGNOSTICA DELL'ECOGRAFIA INTESTINALE CON MEZZO DI CONTRASTO ORALE IN COMPARAZIONE CON RISONANZA MAGNETICA DELL'INTESTINO NELLA CARATTERIZZAZIONE DELLE LESIONI DELLA MALATTIA DI CROHN"

Accuracy of Small Intestine Contrast Ultrasonography Compared to Magnetic Resonance Enterography in Characterizing Lesions in Patients with Crohn's Disease

Caratterizzazione delle lesioni in pazienti affetti da malattia di Crohn: studio di comparazione tra ecografia intestinale con mezzo di contrasto orale ed entero-risonanza magnetica

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Background

Small intestine contrast ultrasonography (SICUS) can detect intestinal damage in patients with Crohn's disease (CD). We evaluated the diagnostic accuracy of SICUS in determining the site, extent, and complications of CD, compared with magnetic resonance (MR)-enterography as the standard.

Methods

We performed a retrospective analysis of data from 52 patients with CD [(M=33; median age: 23, CD site: ileal 35 (67%), ileocolonic 13 (25%), jejunO-ileal, 3 (6%), colonic 1 (2%); behaviour: non-stricturing non-penetrating 8 (15%), structuring 27 (52%), penetrating 17 (33%); previous surgery 21 (40%); clinical indications: disease assessment 46 (89%), obstructive symptoms 6 (11%)] evaluated by SICUS and MR-enterography 3 months apart, between January 2011 and October 2013. We evaluated disease site (based on bowel wall thickness), extent of lesions, presence of complications (stenosis, prestenotic dilation, abscess, or fistulas) using MR-Enterography as the standard. Sensitivity, specificity, and diagnostic accuracy were calculated. We determined the correlations in maximum wall thickness and disease extent in the small bowel between results from SICUS and MR-Enterography.

Results

SICUS identified the site of small bowel CD with 96% sensitivity, 60% specificity, and 92% diagnostic accuracy; it identified the site of colon CD with 70% sensitivity, 92% specificity, and 87% diagnostic accuracy. Results from SICUS and MR-enterography correlated in determination of bowel wall thickness ($\rho=0.51$) and disease extent ($\rho=0.72$; $P<.0001$ for both). SICUS detected ileal stenosis with 90% sensitivity, 92% specificity, and 90% diagnostic accuracy, and pre-stenotic dilation with 66% sensitivity, 80% specificity, and 71% diagnostic accuracy. SICUS detected abscesses with 100% sensitivity, 100% specificity, and fistulas with 80% sensitivity, 81% specificity, and 81% diagnostic accuracy.

Conclusion

SICUS identified lesions and complications in patients with CD with high levels of sensitivity, specificity, and accuracy compared to MR-enterography. SICUS might be used as an imaging tool as part of a focused diagnostic and follow up examination of patients with CD.