

Is extended small bowel transit time on capsule endoscopy associated with a higher degree of inflammation in Crohn's disease?

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INTRODUCTION

The Lewis score (LS), an endoscopic score that evaluates the inflammatory activity for small bowel capsule endoscopy (SBCE) in Crohn's disease (CD), depends on adequate visualization of the intestinal mucosa. It remains controversial whether a longer small bowel transit time (SBTT) may be associated with a higher diagnostic accuracy of significant lesions.

AIM

- Evaluate the association between SBTT and inflammatory activity expressed by LS in patients with established CD
- Describe the association between demographic, clinical and biochemical variables and SBTT in this population

METHODS

- Retrospective single-center study
- Consecutive adult patients undergoing SBCE for established CD
- Patients' demographic, clinical and biochemical data at the time of SBCE were recorded
- Exclusion criteria: insufficient data, incomplete SBCE, need for SBCE placement by endoscopy or capsule panendoscopy

RESULTS

Characteristics of population	
N	156
Mean age (±SD) – yr	35 ±12
Female sex – no. (%)	101 (64.7)
Median time between CD diagnosis and SBCE (IQR) – days	282 (1129)
Adequate bowel cleanliness – no. (%)	148 (94.9)
Montreal classification – no. (%)	
A1, A2, A3	2 (1.3), 114 (73.1), 40 (25.6)
L1, L2, L3	97 (62.2), 3 (1.9), 20 (12.8)
L4	36 (23.1)
B1, B2, B3	148 (94.9), 6 (3.8), 2 (1.3)
Perianal disease	21 (13.5)
Concurrent therapy – no. (%)	110 (80.9)
Anemia – no. (%)	19 (11.6)
Thrombocytosis – no. (%)	17 (11.6)
Median ESR (IQR) – mm	10 (14)
Median CRP (IQR) – mg/L	2.9 (4.9)
Median FC (IQR) – µg/g	201 (537)
Mean SBTT (±SD) – minutes	267 ± 102
Median LS (IQR)	433 (1125)
LS ≥ 135 – no. (%)	133 (85.3)

CD: Crohn's disease; CRP: C-reactive protein; ESR: Erythrocyte sedimentation rate; FC: Fecal calprotectin; LS: Lewis Score; SBCE: Small bowel capsule endoscopy; SBTT: Small bowel transit time;

Correlation between demographic, clinical and biochemical variables and SBCE (Spearman correlation coefficients)

	SBTT
LS	0.163*
Age at SBCE	0.025
Age at diagnosis	0.046
Time between CD diagnosis and SBCE	-0.060
Hemoglobin	-0.112
Platelet count	0.076
CRP	-0.001
ESR	0.076
Fecal calprotectin	0.274*

CD: Crohn's disease; CRP: C-reactive protein; ESR: Erythrocyte sedimentation rate; LS: Lewis Score; SBCE: Small bowel capsule endoscopy; SBTT: Small bowel transit time; * P<0.050

CONCLUSION

Longer SBTT in SBCE is associated with **higher inflammatory activity** in the small bowel of patients with CD, expressed by higher values of LS and fecal calprotectin.