

Title:

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Correlation of endoscopic findings with histological alterations in pediatric ulcerative colitis

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Dear Editor,

Ulcerative colitis (UC) is a chronic and relapsing inflammatory bowel disease (IBD) characterized by abdominal pain and bloody diarrhea. Its diagnosis requires endoscopy and biopsies for histopathological analysis, revealing characteristic endoscopic findings (1). Currently, the correlation between these endoscopic abnormalities and the histopathological diagnosis of UC remains a controversial topic in pediatrics (2). This study evaluates the clinicopathological association of various endoscopic alterations in UC. We conducted an analytical study of patients under 15 years old who underwent upper and lower gastrointestinal endoscopy for suspected IBD at a pediatric hospital between 2015 and 2022 (Reg. 341E/2023). Patients with normal pathology reports and those with a histological diagnosis of UC were included, while children with different diagnoses were excluded. The prevalence of various macroscopic alterations and their association with histological abnormalities were compared between patients with ulcerative colitis (UC) and those without UC (NUC). During this period, 502 endoscopies were performed, with 12 UC patients and 14 NUC children ultimately included. Erythema and normal endoscopic findings, defined as the absence of macroscopic mucosal lesions, were more prevalent among NUC patients, while mucosal friability and the presence of ulcers were the most frequent abnormalities in UC subjects (**Table 1**). Various indices such as the Mayo Clinic Endoscopic Subscore (MES), Pediatric Ulcerative Colitis Activity Index (PUCAI), and The Ulcerative Colitis Endoscopic Index of Severity (UCEIS), among others, have been evaluated, showing an adequate correlation with inflammatory activity, relapses, steroid-free

remission, or the need for colectomy ($r=0.5-0.83$) (3,4). In our cohort, the endoscopic alterations that demonstrated a correlation with histological abnormalities were mucosal friability and the presence of ulcers ($p=0.019$), while isolated erythema and the absence of macroscopic lesions correlated with histological normality ($p=0.010$). Although this study has limitations related to the modest sample size and the subjectivity in interpreting endoscopic findings, our data suggest that the absence of endoscopic abnormalities and isolated mucosal erythema in the colon should prompt consideration of alternative differential diagnoses. In contrast, mucosal friability and the presence of ulcers are associated with the histological diagnosis of UC. Furthermore, the combination of erythema, mucosal friability, and ulcers and/or fibrin necessitates continued clinical vigilance in the face of indeterminate histopathological results.

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Table 1. Macroscopic endoscopic findings and their histopathological correlation with ulcerative colitis.

Macroscopic endoscopic abnormality n (%)	UC (n =12)	NUC (n =14)	p Value
Age (years)	9 ± 3.5	9 ± 3.5	0.999
Male n (%)	4 (33.3 %)	10 (71.4 %)	0.052
Female n (%)	8 (66.7 %)	4 (28.6 %)	
None	0 (0 %)	6 (42.9 %)	0.010
Erythema	0 (0 %)	6 (42.9 %)	0.010
Nodularity	0 (0 %)	1 (7.1 %)	0.345
Mucosal friability	4 (33.3 %)	0 (0 %)	0.019
Ulcer	4 (33.3 %)	0 (0 %)	0.019
Exudates	0 (0 %)	1 (7.1 %)	0.345
Erythema + Friability + Ulcer/Fibrin	2 (16.7 %)	0 (0 %)	0.112



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