

## **Endoscopic scores of postoperative recurrence in Crohn's disease: a reproducibility study**

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Assessment of endoscopic activity is of growing importance in Crohn's disease (CD) both in clinical practice and in therapeutic trials. The Rutgeerts's score (RS) is considered as the standard to evaluate endoscopic recurrence after surgery. The Crohn's Disease Endoscopic Index of Severity (CDEIS) is a prospectively developed and validated score widely used in CD trials, but not in this specific setting. The aim of this prospective study was to compare the two scores and to evaluate their reproducibility in assessing postoperative (po) endoscopic recurrence.

**Methods.** Endoscopic data of 72 patients participating in two multicentre randomized clinical trials for the prevention of endoscopic recurrence after curative ileocolonic resection were used for the purpose of this study. During each procedure, endoscopic recurrence was graded using the RS ranging from i0 (no lesion) to i4, and the po-CDEIS was calculated for two segments (ileum and anastomosis). Endoscopies were recorded on videos in 39 patients, and each record was re-evaluated by 4 of 13 independent blinded observers using a balanced incomplete block randomization. The reproducibility of the two scores was calculated using the kappa estimates for the RS (agreement was considered as poor, moderate, good and excellent for kappa coefficients <0.4, 0.4-0.6, 0.6-0.8 and >0.8, respectively), and the intraclass correlation coefficient for the po-CDEIS.

**Results.** In the whole population (n=72), a significant correlation was found between the RS grade and the median po-CDEIS score (p<0.001), but with overlap, especially for the i2 and i3 grades. In the subset of 39 patients used to assess the interobserver reproducibility, the kappa estimates were 0.51 (95%CI: 0.38-0.64), 0.16 (0.02-0.20), 0.40 (0.30-0.50), 0.19 (0.03-0.35), and 0.72 (0.61-0.83) for the i0, i1, i2, i3 and i4 grades of the RS, respectively. The kappa estimate was 0.57 (0.43-0.71) for the RS globally, 0.45 (0.23-0.66) for a score>i1, and 0.64 (0.44-0.83) for a score >i2. The intraclass correlation coefficient for the po-CDEIS was 0.52 (95%CI: 0.36-0.67; p<0.001).

**Conclusion.** The Rutgeerts score and the po-CDEIS correlate for assessment of endoscopic postoperative recurrence but the reproducibility of the two scores is moderate. Definition of endoscopic recurrence based on the sole use of a cutoff value is questionable.