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P594 Bowel ultrasound is useful in predicting relapse in patients with Ulcerative Colitis in remission

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Background

Bowel ultrasound (BUS) is attention as a non-invasive monitoring tool for Ulcerative colitis (UC). BUS is useful in predicting endoscopic and histologic severity and determining treatment response. However, it is unclear whether BUS can predict the relapse of UC in remission.

Methods

- Design: A single-centre retrospective cohort study
- Study period: Jul 2018 to Jul 2021
- Patients: UC patients who underwent BUS during clinical remission (Patient Reported Outcome-2 ≤ 1 and no rectal bleeding) for at least 3 months and followed up for 1 year
- **Outcome: The maintenance of clinical remission* at 1 year after BUS**

*Relapse: A) rectal bleeding score ≥1 or stool frequency score ≥2, B) treatment intensification for symptoms.

Results 1: Baseline findings

Table 1. Patient's Characteristics

Variable	n=58
Age, years (mean ± SD)	46 ± 17
Male ： Female (%)	37 (63.8%) ： 21
Pancolitis ： Left-sided (%)	39 (67.2%) ： 19
Disease duration (month, median, IQR)	116 (65-197)
MES 0/1/2/3	17/13/11/17
Current treatment	
5-ASA (%)	52 (89.7%)
Topical therapy (%)	10 (17.2%)
Immunomodulator (%)	24 (41.4%)
Prednisolone (%)	1 (1.7%)
Anti-TNF-α agents (%)	15 (25.9%)
Vedolizumab (%)	2 (3.4%)
History of prior biologic (%)	19 (32.8%)
History of systemic steroid (%)	37 (63.8%)

Abbreviation: MES, Mayo endoscopic subscore; BWT, bowel wall thickness; BWF, bowel wall flow; MUC, Milan Ultrasound Criteria; PC, faecal calprotectin; CRP, C-reactive protein; IQR, interquartile range; HR, hazard ratio; CI, confidence interval.
MUC = (-1) × BWT + (-) *presence of BWF (0=absence, 1=presence of colour Doppler signal)

Figure1. Correlation (r_s, Spearman rank test) between BUS findings and endoscopy findings (MES).

Results 2: Predictors of relapse

Figure 2. Kaplan-Meier curves of relapse-free survival (Log rank test). (A) All patients, (B) MES of the colorectum, (C) PC, (D) CRP.

Figure 3. Kaplan-Meier curves of relapse-free survival in patients with (A) BWT, (B) BWF, (C) MUC.

Table 2. Univariate analysis (Cox proportional hazards model) for the risk factor of subsequent clinical relapse

Variable	HR (95%CI)	P value	Variable	HR (95%CI)	P value
Pancolitis	0.93 (0.34-2.42)	0.85	History of systemic steroid	0.87 (0.34-2.26)	0.78
Disease duration ≥ 114(median, months)	1.85 (0.70-4.94)	0.22	CRP ≥ 0.3 mg/dl	0.82 (0.29-3.56)	0.79
Treatment			FC ≥ 250 μg/g	3.58 (0.98-11.7)	0.053
Immunomodulator	0.26 (0.07-0.89)	0.031*	MUC ≥ 6.2	3.22 (1.14-9.08)	0.027*
Biological	0.71 (0.23-2.15)	0.54	MES ≥ 1	8.79 (1.15-68.1)	0.036*

Conclusion

BUS in UC patients in remission can predict relapse using MUC. In particular, the MUC score ≥ 6.2 is associated with a lower risk of relapse and could be a treatment target alternative to endoscopic healing.


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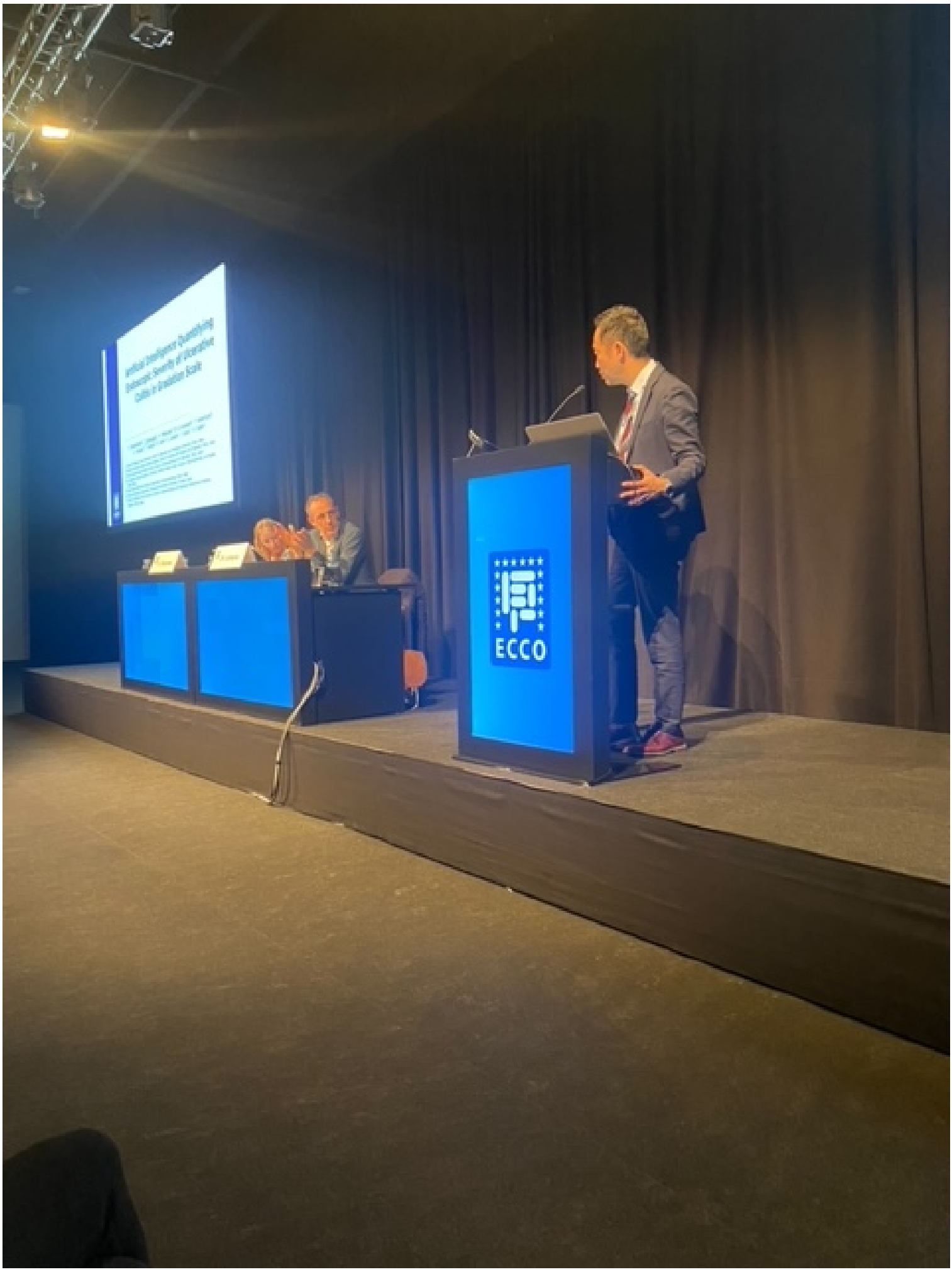
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