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Summary

MUCOSAL MRNA EXPRESSION PROFILE IDENTIFIES PATIENTS WITH CROHN'S DISEASE AT RISK OF RELAPSE AFTER ANTI-TNF WITHDRAWAL

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A mucosal mRNA signature based on six genes distinguished Crohn's disease patients at high risk of relapse after anti-TNF withdrawal from those maintaining sustained remission with 89% AUC in a case-control study.

KEY POINTS

- In 22 Crohn's disease patients in clinical, endoscopic, and microscopic remission at anti-TNF withdrawal, a score based on three upregulated mRNAs (IFITM1, PIK3CA, RBPJ) and three downregulated mRNAs (IRF3, THOP1, NEU1) was significantly higher in the 11 who relapsed versus 11 in sustained remission (median 2.94 vs 0.36, p=0.001).
- The score predicted relapse with HR 1.25 per one-point increase (95% CI 1.08–1.45), AUC 0.89, and at a cut-off of 0.98 achieved sensitivity 0.83 and specificity 1.0.
- Upregulated mRNAs in relapse patients were involved in adaptive immunity and T cell differentiation, while downregulated mRNAs were involved in innate immunity, suggesting strong innate immunity may protect against relapse.
- Median time to relapse was 15.8 months (IQR 9.5) with median follow-up of 3.3 years; baseline characteristics including concomitant immunomodulator use (55% vs 36%, p=0.67) were comparable between groups.
- The findings require validation in a larger prospective cohort, which the investigators reported is currently underway in the Netherlands.

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