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Summary

A BIOMARKER OF EARLY MUCOSAL DESTRUCTION: NEUTROPHIL-MEDIATED TYPE IV COLLAGEN DEGRADATION IS ELEVATED IN PATIENTS WITH CROHN'S DISEASE AND ULCERATIVE COLITIS

Henning Grønbæk

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A novel serum biomarker, C4A3-HNE, measuring neutrophil elastase-degraded type IV collagen, is elevated in IBD and may identify early mucosal damage in ulcerative colitis patients with mild endoscopic activity.

KEY POINTS

- C4A3-HNE was significantly elevated in both Crohn's disease and ulcerative colitis compared to healthy controls ($p=0.001$ and $p<0.0001$, respectively) with AUCs of 0.820 and 0.875, validated in an independent cohort.
- In ulcerative colitis, C4A3-HNE levels were highest in patients with mild endoscopic activity (median 71.77 ng/ml) and decreased dose-dependently in moderate (56.07 ng/ml) and severe disease (40.52 ng/ml) compared to remission (61.16 ng/ml).
- IBD patients with high C4A3-HNE levels had lower fecal calprotectin and CRP than those with low C4A3-HNE, suggesting high levels may indicate early disease rather than severe inflammation.
- A cut-off of 54.1 ng/ml significantly discriminated mild from severe endoscopic disease with 77.8% sensitivity and 70.0% specificity (OR 6.4).
- The authors conclude further studies are required to assess clinical validity for early detection of mucosal damage or prediction of relapse.

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