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Summary

# CIRCULATING CELL-FREE DNA AND MITOCHONDRIAL DNA PREDICT DISEASE ACTIVITY IN PAEDIATRIC-ONSET INFLAMMATORY BOWEL DISEASE

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**Circulating cell-free DNA and mitochondrial DNA levels are significantly elevated in paediatric IBD patients with highly active disease compared to those in remission, suggesting potential utility as non-invasive biomarkers for disease activity monitoring.**

## KEY POINTS

- In a Scottish multi-centre study of 24 paediatric-onset IBD patients (23 Crohn's disease, 1 ulcerative colitis, median age at diagnosis 13 years), cfDNA levels were significantly higher in highly active disease versus remission (median 0.435 vs 0.123 ng/µl, p=0.005).
- Mitochondrial DNA levels were also significantly elevated in highly active disease compared to remission (median 363.6 vs 96.4 copies/µl, p=0.024).
- Cell-free DNA showed moderate correlation with white cell count (r=0.41, p=0.48) and negative correlation with haemoglobin (r=-0.42, p=0.41), while mtDNA did not show these correlations.
- The authors state that further investigation is needed to validate these initial findings and determine clinical utility of these biomarkers in paediatric IBD management.
- This work may interest paediatric gastroenterologists seeking non-invasive monitoring tools for disease activity in young IBD patients.

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