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Summary

IDENTIFICATION OF POTENTIAL METABOLOMIC BIOMARKERS OF UPPER GASTROINTESTINAL BLEEDING BY USING IN VITRO DIGESTION MODEL

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Researchers used in vitro digestion models and mass spectrometry to identify 63 statistically significant metabolites and volatile organic compounds as potential biomarkers for upper gastrointestinal bleeding.

KEY POINTS

- Blood samples from 30 healthy volunteers were subjected to simulated gastric and intestinal digestion to model upper gastrointestinal bleeding in vitro
- LC-MS analysis identified 47 metabolites, with 42 showing significantly higher levels in digested blood compared to control samples ($p < 0.05$, $Log2(FC) > 2$)
- GC-MS analysis of volatile organic compounds identified 16 statistically significant compounds, with 3 elevated in gastric-phase digestion and 3 elevated in combined gastric-intestinal digestion
- The study addresses the clinical need for accurate non-invasive methods to predict upper gastrointestinal bleeding before endoscopy
- This work may interest researchers developing diagnostic biomarkers for gastrointestinal bleeding emergencies

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