

BREATH FINGERPRINT RESULTS OF GASTRIC CANCER BASED ON THE GAS CHROMATOGRAPHY-MASS SPECTROMETRY ANALYSIS

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Poster

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Gas chromatography-mass spectrometry analysis of breath samples from 98 gastric cancer patients and 214 controls identified 12 volatile organic compounds at significantly higher levels in cancer patients.

KEY POINTS

- Fourteen volatile organic compounds differed significantly between gastric cancer patients and controls, with 12 elevated and 2 decreased in the cancer group.
- The 12 elevated compounds included two ketones (2-pentanone and 6-methyl-5-hepten-2-one), two aromatics (p-xylene and ethylbenzene), three alcohols (1-octanol, 1-decanol and 2-ethyl-1-hexanol), three hydrocarbons (decane, dodecane and tridecane), and two aldehydes (hexanal and decanal).
- Study subjects were recruited from Latvia, Ukraine, and Colombia, with standardized breath sampling, storage, and transport protocols used to control for confounding factors.
- Authors suggest these compounds may represent a breath fingerprint for gastric cancer and could inform development of portable sensor-based screening devices for early gastric neoplasia.

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