

Metabolomics: Ever applicable in clinical practice?

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Presentation

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A plasma metabolic signature combining four sphingolipid-derived metabolites with CA19-9 improved pancreatic cancer diagnosis by 13% compared to CA19-9 alone in a prospective multicenter German trial of patients with undefined pancreatic masses.

KEY POINTS

- The speaker reported that the four-metabolite plus CA19-9 signature achieved a negative predictive value of 91.5%, a six-point increment in area under curve versus CA19-9 alone, and reduced false positives by 11.8% and false negatives by 15.3%.
- The signature performed particularly well in early-stage resectable tumors (stage 1A to 2B) and remained stable across varying disease prevalence from 1% to 20%, indicating it is not influenced by sample bias.
- The speaker stated that patients must be fasted for the test, as non-fasted patients showed more false negatives, and results from jaundiced patients require cautious interpretation due to higher false positive rates.
- The metabolic signature is derived predominantly from sphingolipid metabolites, with the majority linked to acid sphingomyelinase, an enzyme the speaker stated is significantly increased in pancreatic cancer cells.
- The speaker indicated the signature costs less than 400 euros, uses absolute quantification from a single analytical platform, and has completed clinical validation; prognostic data from 24-month follow-up are currently under analysis.

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