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Sheba Medical Center partners with Tethis to advance AI-powered liquid biopsy in rectal cancer

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To evaluate circulating tumour cells in rectal cancer patients



Italy-based Tethis S.p.A., a pioneer in standardised liquid biopsy platform development, and Sheba Medical Center,Israel's largest medical center, have announced a research collaboration to evaluate circulating tumour cells (CTCs) in rectal cancer patients using Tethis' proprietary technology. Under the agreement, a Tethis' See.d instrument will be installed at Sheba's Institute of Pathology.

The study, led by Prof. Iris Barshack will focus on monitoring CTCs and ctDNA in patients with rectal cancer before and after neoadjuvant therapy. Blood samples will be collected at multiple time points to establish baseline CTC levels and track changes throughout treatment.

The research aims to evaluate the potential of CTCs combined with ctDNA as a surrogate marker to predict relapse of rectal carcinoma earlier than conventional imaging studies.

Dr Holger Neecke, CEO of Tethis said, "Our See.d instrument, combined with our nanocoated SmartBioSurface slides, enables standardised preparation of cytology specimens containing immune and tumour cells, suited for sequential multiplexing and interpretation with artificial intelligence, while collecting plasma for cell free DNA analysis."

"The analysis of the cytology specimens using bright field multi-staining immunohistochemistry and AI-powered algorithms builds upon our successful proof-of-concept studies with model cells, advancing the field of digital cytology in liquid biopsy applications," says Dr Nadia Prisant, Head of the Liquid Biopsy Laboratory. "The ability to prepare high-quality cytology slides at the point of blood collection may provide valuable insights into disease progression and help guide treatment decisions for our patients."

The See.d instrument and SmartBioSurface slides are for Research Use Only and are not intended for use in diagnostic procedures.