

**Real-time monitoring of circulating tumor cells in patients with pancreatic ductal adenocarcinoma.
preliminary results of the french multicentric panlipsy study**

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Abstract

Background: The growing incidence and mortality rate of pancreatic cancer makes it as one of the main healthcare issues. To date, there is no circulating biomarker available for early diagnosis.

Objective: The PANLIPSY study is a French nation-wide prospective clinical trial investigating a multi-omic liquid biopsy approach, associated with an AI-based analysis, in early detection of pancreatic ductal adenocarcinoma (PDAC).

Methods: Thanks to BACAP and PACTOL cohorts (NCT06128343 / NCT05824403), a total of 115 patients (50 ml blood) have been recruited from 3 hospital centers since study opening (13/12/2023 to 10/02/2025). Patients were enrolled at the time of diagnosis and divided into 4 groups: Resectable (n=29), Borderline/Locally Advanced (B/LA; n=28), Metastatic PDAC (n=31), Benign Pancreatic Conditions (BPC; n=28). CTCs enumeration was performed using the CellSearch® and CTC+ patients were evaluated for each group. Liquid biopsy and clinical data will inform machine learning-AI in order to define an algorithm (discovery phase), which will then be validated in phase 2 (validation phase).

Results: Overall, 12% (14/116) of patients were CTC+. Among the cohort, CTC counts ranged from 0-2054, with the highest prevalence observed in metastatic PDAC (n=9/31, 29%). This was followed by the B/LA group (n=4/28, 14.3%) whereas no CTCs cases were detected in the Resectable group (n=0/29, 0%) and BPC group (n=0/29, 3.6%). Also, we report one patient with circulating epithelial (EPCAM+/CK+/DAPI+/CD45-) cells (1 CTC/7.5mL) presenting a chronic pancreatitis from the BPC group (n=1/28, 3.6%). These findings suggest that CTC presence correlates with tumor burden, being most frequent in metastatic cases.

Conclusion: These single analyte preliminary results from PANLIPSY study highlights the potential role of CTCs in PDAC stratification as CTC CellSearch® enumeration seem to depict 3 distinct groups. The absence of CTCs in resectable patients contrasts with the higher prevalence in metastatic patients. The presence of circulating epithelial cells CD45- have been described in benign pancreatic conditions such as pancreatitis or premalignant lesions highlighting the need of a multiomic approach. Further analysis including all targeted blood circulating biomarkers will determine the clinical utility of liquid biopsy for early detection of PDAC.

Do you have any conflicts of interest?

No, I do not have a conflict of interest.