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# Pankind 2025 Scientific Meeting

## Poster Abstract Form

## Title: Portal venous circulating tumour cells as a biomarker for relapse prediction in resected pancreatic cancer

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### Introduction

Pancreatic cancer is an aggressive disease with poor prognosis. The only potentially curative treatment option is surgical resection, however recurrence is common. Biomarkers to detect minimal residual disease, assist with risk stratification, relapse and real time monitoring, are required. Circulating tumour cells (CTCs) are a promising liquid biopsy biomarker for solid tumours. However, their role in monitoring minimal residual disease in pancreatic cancer remains to be determined. Our study aimed to investigate whether detection and enumeration of CTCs could predict recurrence and provide monitoring of disease status.

### Methods

Participants planned for Whipple procedure or partial pancreatectomy were enrolled in this prospective pilot study. Intraoperatively, 7.5 mL of portal and peripheral venous blood were collected, and peripheral

venous blood was collected post-surgery. CTC identification and enumeration were performed using the AccuCyte-CyteFinder platform.

## Results

Of 29 participants, 15 had confirmed pancreatic ductal adenocarcinoma. CTCs were detected intraoperatively in 75% of portal venous blood samples, in contrast to 40% detected in peripheral venous blood (median: 6 and 0 per 7.5mL respectively). Only portal venous CTC detection was predictive of relapse. The positive (> 5) portal venous CTC group had a 6.67 times higher risk of recurring (odds ratio = 20.43, sensitivity = 1.00, specificity = 0.625). Detection of peripheral venous CTCs post-surgery correlated with relapse in a small subset of patients.

## Conclusion

CTCs was detected in portal venous blood samples in greater number than in peripheral blood and could be used to identify patients likely to relapse early. If validated, CTCs may provide a prognostic and monitoring biomarker in pancreatic cancer.