**Introduction**

Early detection of recurrence in patients with colorectal cancer (CRC) is critical for improving patient outcomes. Plasma-based circulating tumor DNA (ctDNA) analysis has been shown to detect relapse in patients with CRC, providing a non-invasive method for monitoring disease status. This study aimed to develop and validate a personalized ctDNA analysis method to monitor recurrence in patients with CRC, with the potential to guide treatment decisions.

**Methods**

A cohort of 130 patients with stage I-IV CRC, treated with curative surgery, and (optional) adjuvant chemotherapy (ACT) was included. Plasma samples were collected longitudinally at baseline prior to surgery and at scheduled control visits after surgery. ctDNA was analyzed using massively parallel sequencing in plasma collected pre- and post-surgery, and during ACT.

**Objectives**

- To develop a personalized circulating tumor DNA (ctDNA) analysis method for monitoring recurrence in CRC patients.
- To assess the potential of ctDNA to guide treatment decisions in CRC.
- To monitor treatment response in CRC using ctDNA analysis.

**Results**

A total of 130 patients were included in the study. The characteristics of the patients are detailed in Table 1. The ctDNA analysis was performed using massively parallel sequencing, and the results were compared with clinical outcomes.

**Conclusions**

The ctDNA analysis demonstrated potential for personalized monitoring of patients with CRC, providing a non-invasive method to detect recurrence and guide treatment decisions. Further studies are needed to validate these findings in a larger patient cohort.

**References**