Background Colorectal cancer is a heterogeneous disease with complicated genetic alterations. Right colon and left colon have different features while right colon cancer displays an even worse prognosis. The randomized phase III FOxTROT trial demonstrated better downsizing effect with neoadjuvant plus adjuvant chemotherapy compared with adjuvant chemotherapy alone (P=0.04). Moreover, 2-year relapse rate was improved with neoadjuvant therapy, though the difference was not statistically significant. The NICHE study of neoadjuvant immunotherapy (maximum 6 weeks) showed the pathological response was observed in 20/20 mismatch repair-deficient (dMMR) resectable colon cancers, with 19 major pathological responses and 12 pathological complete responses (pCRs). Recently, KEYNOTE-177 study showed improved progression-free survival with PD-1 inhibitor over chemotherapy (16.5 months vs. 8.2 months) in untreated microsatellite instability-high (MSI-H) dMMR colon cancer patients, including 68% of right colon cancers. In addition, camrelizumab (PD-1 inhibitor) plus apatinib (vascular endothelial growth factor receptor-2 tyrosine kinase inhibitor) demonstrated favorable antitumor effects and a manageable safety profile in advanced hepatocellular carcinoma and gastric cancer. This phase II trial aims to explore whether the combination of camrelizumab, apatinib and chemotherapy (mFOLFOX6) could significantly improve the pathological regression rate in locally advanced right colon cancer so as to bring considerable survival benefit for patients.

Methods Eligible patients are aged 18–75 years, with locally advanced (T4 or T3 with extramural depth ≥5 mm, N0-2, M0, AJCC 8th) adenocarcinoma of right colon (including ileocelecal area, ascending colon, and transverse colon to splenic flexion), and without prior systemic chemotherapy or immunotherapy. All patients will receive 5 cycles of camrelizumab, apatinib and chemotherapy (mFOLFOX6) could significantly improve the pathological regression rate in locally advanced right colon cancer so as to bring considerable survival benefit for patients.

RESULTS To date, three of planned 64 patients have been enrolled. Two patients have completed surgery. According to Dworak criteria, TRG ranked 4 (pathologic complete response) for the first patient and 3 (very few tumor cells in fibrotic tissue) for the second patient. No severe adverse events have been observed for all patients.

Trial Registration This trial has been registered at ClinicalTrials.gov (NCT04625803).