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The prognostic value of circulating cell-free DNA in colorectal cancer: A meta-analysis

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Background: Circulating cell-free DNA (cfDNA) is a promising candidate biomarker for detection, monitoring and survival prediction of colorectal cancer (CRC). However, its prognostic significance for patients with CRC remains controversial. To derive a precise estimation of the prognostic significance of cfDNA, a meta-analysis was performed.

Methods: We made a systematic search in data base of Pubmed, Embase and the Science Citation Index for studies reporting prognostic data of cfDNA in CRC patients. The data of cfDNA on recurrences-free survival (RFS) and overall survival (OS) were extracted and measured in hazard rates (HRs) and 95% confident intervals (CIs). Subgroup analyses were carried out as well. Finally, nine studies including 19 units of analyses were included in the meta-analysis.

Results: The pooled HRs with 95% CIs revealed strong associations between cfDNA and RFS (HR [95% CI=2.78 [2.08-3.72], I2=32.23%, n=7) along with OS (HR [95% CI=3.03 [2.51-3.66], I2=29.24%, n=12) in patients with CRC. Entire subgroup analyses indicated strong prognostic value of cfDNA irrespective tumor stage, study size, tumor markers, detention methods and marker origin.

Conclusion: All the results exhibit that appearance of cfDNA in blood is an indicator for adverse RFS and OS in CRC patients.

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