Conference Abstracts

Utility of circulating tumor DNA (ctDNA)-based tumor genomic profiling in previously treated patients with advanced gastrointestinal (GI) cancer

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BACKGROUND

ctDNA-based tumor genomic profiling is an evolving novel alternative to tissue-based profiling to guide targeted treatment in patients with solid tumors. The current study evaluated the utility of ctDNA testing to recommend treatment in advanced GI cancer patients who progressed on at least one standard therapy.

METHODS

After the institutional review board approval, advanced GI cancer patients who had ctDNA-based genomic profiling (Guardant360® CDx) after progression on at least one standard therapy between May 2020 and July 2021 were identified by institutional database search. Electronic medical records of the patients were retrospectively reviewed to collect data on patient characteristics, genomic alterations, treatment administered, and treatment outcome.

RESULTS

Among 37 patients analyzed (median age 63 years, male = 17 [46%]), 7 (19%) patients had actionable genomic alterations in the ctDNA test that included microsatellite instability-high (MSI-H) in two patients (pancreatic adenocarci-

noma and carcinoma of unknown primary[CUP]), epidermal growth factor receptor (EGFR) amplification in two patients (both metastatic colorectal cancer[mCRC]), KRAS G12C in two patients (mCRC and CUP) and KRAS G13D in 1 patient (CUP). Both patients with MSI-H tumors and one patient with EGFR amplification received therapy based on the ctDNA result. The remaining four patients did not receive ctDNA-guided treatment either because of rapidly progressive cancer-causing death or inability to access a clinical trial. Both patients with MSI-H tumors achieved partial responses (PR) to immunotherapy (pembrolizumab) lasting for 20 and 19 months, respectively, with currently ongoing responses. The patient with EGFR amplification was treated with irinotecan and panitumumab with disease stabilization for two months, followed by rapid progression and death.

CONCLUSION

ctDNA-based tumor genomic profiling can help guide treatment selection in previously treated patients with advanced GI cancer. ctDNA testing early in the disease course might increase the feasibility of targeting the actionable mutation.