Molecular tumor board provides useful assist in cancer precision medicine

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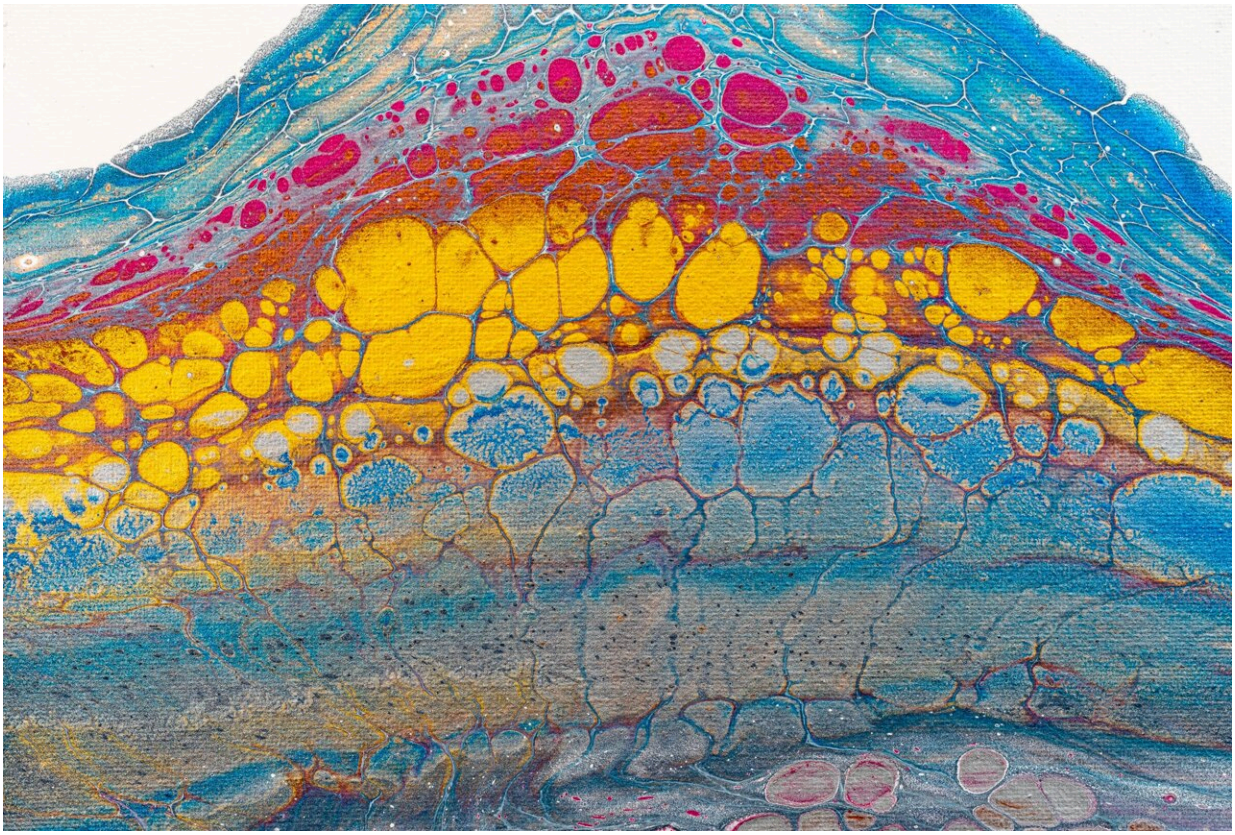

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The field of precision cancer medicine has become so complex that even experienced oncologists can find it challenging to decipher the results of molecular tests of tumor tissue and navigate treatment options for

patients. At Dana-Farber Cancer Institute, a multi-disciplinary team has been assisting gastrointestinal cancer physicians—reviewing test results and offering timely recommendations on treatment options.

A paper posted online today by *JCO Precision Oncology* reports that the program has largely fulfilled expectations, providing expert treatment guidance for more than 500 patients over the six-month evaluation period and identifying clinical trials appropriate for the majority of them. Overall, the team has reviewed test results for more than 2,700 patients to date. The findings suggest that the program can be a model for other cancer centers.

"Precision cancer medicine, which involves identifying key molecular changes within tumors and targeting them with the right drugs, has transformed the treatment of many malignancies," said the study's senior author, Marios Giannakis, MD, Ph.D., of Dana-Farber and the Broad Institute of MIT and Harvard. "To make the best decisions for patients, oncologists would ideally need an understanding of the intricacies of genomic testing and a working knowledge of cancer genetics—which can be difficult to apply in a busy clinic. Our program relieves oncologists of some of that burden by having a team of experts assist."

The program, dubbed GI TARGET (for Treatment Assistance Regarding Genomic Evaluation of Tumors), involved the creation of a multidisciplinary team of gastrointestinal oncologists, pathologists, genomic scientists, and research coordinators. The team functions as a molecular tumor board, reviewing tests for genomic abnormalities in patients' gastrointestinal tumors and identifying clinical trials of drugs (or off- and on-label therapies) that target those abnormalities.

The new paper reports results for 506 patients with gastrointestinal cancer treated at Dana-Farber Brigham Cancer Center between January and June 2019. Most of patient tumor samples were analyzed by

OncoPanel, a test that can detect more than 450 genetic irregularities in tissue.

The results were reviewed by the tumor board, which also used MatchMiner, a computational platform developed at Dana-Farber, to match patients to targeted therapy trials based on the genetic alterations in the patients' tumors. The board issued recommendations for treatment and other clinical actions, which were entered directly into patients' electronic medical record, where they could be reviewed by each patient's oncologist and other providers.

The board met weekly. The median time between the testing of tumor samples and the issuing of treatment recommendations was eight days.

"Our results show that precision medicine can be integrated into routine cancer care with a multidisciplinary tumor board, and that this program is both scalable and sustainable at a center like ours, which has a high volume of patients," Giannakis said.

This approach generated many actionable findings: the board was able to make clinical trial recommendations for 80% of the patients and recommended additional testing for 42%.

"The success of this program in gastrointestinal oncology at Dana-Farber suggests that similar programs could be implemented elsewhere, with investment of some resources and willingness to adjust workflows accordingly," said Brian Wolpin, MD, MPH, director of the Gastrointestinal Cancer Center at Dana-Farber.

More information: Marios Giannakis et al, Programmatic Precision Oncology Decision Support for Patients with Gastrointestinal Cancer, *JCO Precision Oncology* (2023). DOI: 10.1200/PO.22.00342

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