

Liquid biopsy can assess therapeutic response of pediatric brain tumors

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(HealthDay)—A liquid biopsy using blood or cerebrospinal fluid (CSF)

can effectively quantify changes in mutation levels among pediatric patients being treated for diffuse midline gliomas (DMGs), according to a study recently published in *Clinical Cancer Research*.

Eshini Panditharatna, Ph.D., from Children's National Health System in Washington, D.C., and colleagues used droplet digital polymerase chain reaction analysis for 110 specimens from 48 patients with high-grade DMGs to quantify circulating tumor DNA (ctDNA) for H3K27M driver mutations in order to conduct longitudinal assessment of disease response compared with magnetic resonance imaging (MRI) data.

The researchers identified H3K27M in CSF and plasma in 88 percent of patients with DMGs. CSF was the most enriched sample type for ctDNA. They found that multiplex analysis is feasible for detecting H3K27M and additional driver mutations in patients' tumor and matched CSF, maximizing the utility of a single source of liquid biome. There was a significant decrease in H3K27M plasma ctDNA, which matched MRI assessment of tumor response to radiotherapy, in 83 percent of patients (10 of 12).

"Our [liquid biopsy](#) approach provides a molecularly based tool for tumor characterization, and is the first to indicate clinical utility of ctDNA for longitudinal surveillance of DMGs," the authors write.

More information: [Abstract/Full Text \(subscription or payment may be required\)](#)

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