Study Snapshot

Key Conclusions

- CSF-TC-based monitoring may offer a complementary strategy for tracking disease burden and treatment response in rare CNS tumors with leptomeningeal dissemination
- In this PPTID case, CSF liquid biopsy provided potentially useful surveillance information when CSF cytology and conventional CSF markers were unremarkable

Background

Pineal parenchymal tumors of intermediate differentiation (PPTID) are rare, aggressive CNS tumors with with risk of leptomeningeal dissemination, where MRI and CSF cytology may be limited for monitoring treatment response. Pelletier et al. evaluated whether CSF-based circulating tumor cell assessment could support longitudinal disease surveillance.

Methods

- Single-patient case report of a 27-year-old patient with PPTID initially treated with subtotal resection and radiation, followed approximately 14 months later by local recurrence and LM
- The CNSide CSF liquid biopsy assay was used alongside standard monitoring to evaluate treatment response across seven CSF specimens/time points
- Assay evaluation included CSF tumor cell (CSF-TC) protein-expression, ctDNA, and FISH biomarkers; PPTID synaptophysin expression provided biologic rationale for tumor-specific CSF-TC detection

Results

1. CSF cytology and routine CSF parameters remained unremarkable/ negative, despite known disseminated PPTID and clinical/radiographic surveillance needs
2. Serial CSF liquid biopsy was feasible across seven time points and provided an additional method for monitoring treatment response during complex systemic, intrathecal, radiation, and targeted/ biomarker-informed therapy

CNSide®

During the time of data analysis and manuscript writing, CNSide was run as a Laboratory Developed Test at Biocept, Inc. in a California CLIA-certified and CAP-accredited laboratory. CNSide was acquired by Plus Therapeutics in May 2024, and the test was made commercially available in March 2026 by CNSide Diagnostics LLC, a wholly owned subsidiary of Plus Therapeutics, Inc.

Disclosure

Perry Corkos and Tony J. Pircher disclosed employment with Biocept, Inc., and Santosh Kesari disclosed personal fees and prior consulting for Biocept during the time of data analysis and/or manuscript writing.

Study

This was a single-patient case study performed at a single institution treated between February 2018 and February 2023 under an IRB approved protocol where the IRB agreed to waive consent.

Study Snapshot

This Study Snapshot was developed by CNSide Diagnostics, LLC. The source data for this Study Snapshot is a peer-reviewed publication by Pelletier et. al. (Reference: "Monitoring the Response of a Pineal Parenchymal Tumor of Intermediate Differentiation With Cerebrospinal Fluid Dissemination Using a Circulating Tumor Cell Assay". *Cureus* 18(2): e103982).

Regulatory Status

CNSide is a Laboratory Developed Test (LDT) for which safety and effectiveness have not yet been established. The test is labeled as RUO-Research Use Only. Not for diagnostic purposes.

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