

ABSTRACT

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New perspectives in liquid biopsy for glioma patients.

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PURPOSE OF REVIEW: Gliomas are the most common primary tumors of the central nervous system. They are characterized by a disappointing prognosis and ineffective therapy that has shown no substantial improvements in the past 20 years. The lack of progress in treating gliomas is linked with the inadequacy of suitable tumor samples to plan translational studies and support laboratory developments. To overcome the use of tumor tissue, this commentary review aims to highlight the potential for the clinical application of liquid biopsy (intended as the study of circulating biomarkers in the blood), focusing on circulating tumor cells, circulating DNA and circulating noncoding RNA.

RECENT FINDINGS: Thanks to the increasing sensitivity of sequencing techniques, it is now possible to analyze circulating nucleic acids and tumor cells (liquid biopsy).

SUMMARY: Although studies on the use of liquid biopsy are still at an early stage, the potential clinical applications of liquid biopsy in the study of primary brain cancer are many and have the potential to revolutionize the approach to neuro-oncology, and importantly, they offer the possibility of gathering information on the disease at any time during its history.

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