

# Journal of Genetic Medicine and Gene Therapy

Volume - 5, Issue - 1

Review Article

Published Date:- 2022-09-29

[New insights of liquid biopsy in ovarian cancer](#)

Through the development of new analysis technologies, many issues regarding the approach to tumoral diseases have been elucidated. With analytical assays developed in the last years, various omics technologies have evolved in such a manner that the characteristics of tumor cells and products can be evaluated (assessed) in the bloodstream of cancer patients at different times. Ovarian Cancer (OC) is one of the most difficult to diagnose tumors, with low survival rates due to the high heterogeneity of these diseases that are distinct in terms of etiology and molecular characteristics, but which simply share an anatomical appearance. Recent findings have indicated that several types of ovarian cancer classified into different histotypes are in fact derived from non-ovarian issues and share few molecular similarities. Within this context, ovarian cancer screening and diagnosis can be made through the evaluation of circulating tumor cells in peripheral blood using liquid biopsy technologies. Advances in the study of various molecules analyzed by liquid biopsy have shown that elucidation of intratumoural and intertumoural heterogeneity and spatial and temporal tumor evolution could be traced by serial blood tests rather than by histopathological analyses of tissue samples from a primary tumor. Therefore, evaluation of some molecules such as circulating tumor cells (CTC), circulating tumor DNA (ctDNA), circulating cell-free RNA (non-coding and mRNA, extracellular vesicles), tumor-educated platelets or different miRNAs using liquid biopsy could lead to improvement of patient management.

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