عنوان مقاله:

A Systematic Review of Circulating Tumor Cells in Renal Cell Carcinoma

محل انتشار:

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خلاصه مقاله:

Introduction Renal cell carcinoma (RCC) is one of the most usual kidney's tumors. The improvement of non-invasive biomarkers will make it feasible to investigate whose have high risk of recurrence after radical or partial nephrectomy and will expand the valuation of tumor response to several treatment strategies. In this perspective, liquid biopsy suggests a talented perception for cancer diagnosis and monitoring, with several benefits versus traditional RCC diagnostic processes and can be taken into account of the present RCC diagnosis and controlling strategies. Method In this systematic review, we considered both CTCs count and molecular markers in RCC patient management. A systematic search on several databases like PubMed, Scopus, Embase, and Web of Science was directed which led to the final 24 studies considering the impact of CTCs on both diagnosis and prognosis of RCC. Results Several primary studies consider the CTCs quantitation as the tumor representing components that are based on immunomagnetic separation procedure. The magnetic cell sorting (MACS) technique, cell search, Tapered-slit filter (photosensitive polymer-based microfilter), CELLection™ Dynabeads® coated with the monoclonal antibodies, and ISET® -Isolation by Size of Tumor cells. If CTCs wanted to be recruited for the prognosis of RCC and progression-free survival (PFS) it is better to check by gene expression profile through quantitative polymerase chain reaction analysis (Real Time-PCR) or in situ hybridization of CTC's RNA molecules. Conclusions CTCs detection as the main liquid biopsy component has an excessive clinical impact on cancer management. Nevertheless, usual methods have some limitations when directing for the recognition of circulating tumor cells (CTCs) with high efficiency and low cost. .Some CTCs molecular markers and gene expression profiling of CTCs should be considered for RCC prognosis

کلمات کلیدی:

renal cell carcinoma, circulating tumor cells, Molecular markers, Diagnosis