circulating miRNA-21 and miRNA-23a expression signature as a potential biomarkers for early detection of non-small-cell lung cancer

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Abstract:

Abstract: Background and Aim: Lung cancer (LC) is a major cancer killer worldwide, and 5-yr survival is extremely poor (≤15%), accentuating the need for more effective diagnostic and therapeutic strategies. Studies have shown cell-free microRNAs (miRNAs) circulating in the serum and plasma with specific expression in cancer, indicating the potential of using miRNAs as biomarkers for cancer diagnosis and therapy. This study aimed to identify differentially-expressed two miRNAs in the plasma of non-small cell lung cancer (NSCLC) patients that might be a clinically useful tool for lung cancer early detection. miRNA-21 is one of the most abundant oncomirs. miRNA-23a functions as an oncogene in several human cancers, however, its clinical value has not been investigated in NSCLC. Materials and Methods: A case-control study was conducted in Assiut University Hospital, Egypt, from 2017 to 2018. Plasma samples were obtained from 45 NSCLC patients. The expression level of miR-21 and miRNA-23a was detected by qRT-PCR and compared to 40 healthy control subjects. The relation between both miRNAs and clinicopathological parameters was evaluated. Results: The expression level of miR-21 and miRNA-23a was significantly up-regulated (36.9 ± 18.7 vs. 1.12 ± 0.84 and 24.7 ± 19.09 vs. 1.16 ± 0.45) in NSCLC compared to matched controls (P

Keywords:

Biomarkers, early detection, miR-21, miR-23a, non-small-cell lung cancer

Published In:

MicroRNA , Vol. 8 (3), , Page:1-10