The Expression of hsa-miR-155-5p in Plasma Samples Of Breast Cancer Before And After Chemotherapy

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Abstract	Breast cancer has emerged as the most common cancer-related mortality among women worldwide. Therefore, early cancer detection using biomarkers such as microRNA is needed. One of microRNAs that has an important role in breast cancer development is miR-155. Hsa-miR-155-5p is an oncomir that is commonly dysregulated in breast cancer. This study aims to determine the expression of hsa-miR-155-5p in breast cancer patientÃ¢Â€Â™s plasma before and after chemotherapy. We collected 64 samples from breast cancer patients admitted to Dr. Sardjito Hospital in Yogyakarta. RNA from plasma was extracted using RNA Isolation Kit miRCURY-Biofluid. cDNA synthesis was performed using cDNA Synthesis kit II and quantification of miR-155-5p using ExiLent SYBR Green master mix (Exiqon). qRT-PCR results were then analyzed with Livak's method and compared (before and after chemotherapy) with t-test. Expression of miR-155-5p in the breast cancer patientsÃ¢Â€Â™ plasma after chemotherapy was significantly increased (10.59 times) when compared to before chemotherapy (p = 0.001). We concluded that there was upregulated expression of miR-155-5p after chemotherapy than before chemotherapy. There has not been a known, relevant pathway between hsa-miR-155-5p and chemotherapy regimens nor resistance to chemotherapy.Ã‚Â Keywords: Breast cancer, plasma, hsa-miR-155-5p, oncomiR, chemotherapy.
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