Expression of CK19 in Blood Samples of Healthy Women using RT-PCR in Real Time for Minimal Residual Disease.

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The tumor characteristics and not the detection of circulating tumor cells is the main factor to indicate the use of adjuvant chemotherapy for breast cancer patient. This is due to the lack of complementary methods able to detect a very small amount of residual breast tumor (MRD minimal residual disease). We aimed at the validation of quantitative RT-PCR method to detect circulating tumor cells from the Cytokeratin 19 (CK19) in blood samples of healthy women (without breast cancer) and the holding of a curve sensitivity to verify circulating epithelial cells from patients with breast cancer under chemotherapy. RNA samples were extracted from blood donnors (23) and cDNA was conducted. We tested the methods of re-extraction with TRIzol (I) and DNAse (II) with higher dilutions of samples in order to remove any residual cells and determine the specificity of this method. Seven samples were positive when they were not treated with any of the methods I or II. When applied the method II five samples remained positive. We combined both method I and higher dilution (1:50) and any sample was positive. Moreover, we noted that the method is able to detect epithelial cells in the proportion of 1 / 1000 when we conducted the standard curve. The detection of circulating epithelial cells from the study of CK 19 in quantitative RT-PCR can reveal information about the potential micro metastasis.

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