

**Detection of gene expression in sentinel lymph node of primary breast cancer patients from Iran**

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**Background & Aim:** Sentinel lymph node (SLN) micrometastasis detection improves outcome for breast cancer follow up procedure. The aim of the present study was to identify gene profiles that accurately predicted the outcome of breast cancer patients.

**Materials & Methods:** In this study we examined in 50 sentinel lymph node (SLN) biopsy present of small number of cancerous cell between breast tumor and axillary lymph nodes for the expression of three genes MUC1, BUB1b and NEK2 using quantitative-PCR. Also clinical verification for recurrence to distant organs was performed. Three gene signatures were confirmed based on tumor's stage, grade, ER status, using conditional logistic regression.

**Results:** Based on these findings the negative reported lymph nodes for metastasis had micro metastasis in significant values. There was a significant difference between normal and cancer samples in three gene expression markers and there was meaningful relationship between three gene expressions with tumor's grade, stage according to progression of tumor.

**Conclusion:** A novel gene expression signature predictive of micro metastatic patients was evaluated. In this assessment, relationship between these genes with tumor's features that finding clear role for these genes with tumor's outcome, needs to be established.

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