SURVIVAL ANALYSIS REVEALS A FOUR MICRO RNA SIGNATURE FOR TRIPLE NEGATIVE BREAST CANCER

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Introduction and objectives: Triple negative breast cancer (TNBC) is currently the only major breast tumor subtype without effective targeted therapy and, as a consequence, in general presents a poor outcome. Because of poor prognosis and a more aggressive phenotype, there is an urgent clinical need to identify novel therapeutic targets for TNBCs. MicroRNAs (miRNA), a class of small noncoding RNAs able to regulate gene expression, are known to be deregulated in breast cancer and may therefore serve as tools for diagnosis and prognosis. Materials and methods: To identify new therapeutic targets in TNBC, we analyzed miRNA expression of a cohort composed of 185 patients diagnosed with TNBC. Results and conclusions: We identified a four-miRNA signature that allowed subdivision of TNBC into high- or low-risk groups (Hazard Ratio - HR = 0.32; 95% Confidence Interval - CI = 0.11 – 0.91; p = 0.033) and are also statistically associated with survival outcome in subgroups of postmenopausal status (HR = 0.19; 95% CI = 0.04 – 0.90; p = 0.016), nodes negative status (HR = 0.12; 95% CI = 0.01 – 1.04; p = 0.026), and tumors larger than 2 cm (HR = 0.21; 95% CI = 0.05 – 0.81; p = 0.021). This four-miRNA signature was revealed to be significantly associated with triple negative breast cancer as an independent prognostic factor for survival.

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