**Abstract form**

Prognostic effects of *ABCB1* and *TMEM14B* expression in triple-negative breast cancer

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**Purpose**

*ABCB1* (P-glycoprotein) is well-known for its role in effluxing chemotherapeutic drugs out of cancer cells, contributing to multidrug resistance. Conversely, low expression of ABCB1 may lead to drug accumulation and toxicity. *TMEM14B* (Transmembrane Protein 14B), although less characterized, is thought to play roles in mitochondrial function, membrane potential maintenance, and cellular stress responses. Low TMEM14B expression may impair these processes, resulting in increased cellular stress and dysfunction. This study aims to investigate the association between the expressions of *ABCB1* and *TMEM14B* and prognosis in triple-negative breast cancer (TNBC).

**Materials and Methods**

A total of 115 TNBC samples from patients who had received chemotherapy were retrieved from the TCGA-BRCA database. *ABCB1* and *TMEM14B* expressions were computed using z-scores, comparing the expression levels in tumor samples to the distribution of log-transformed mRNA expression levels in adjacent normal samples in the cohort.

**Results**

TNBCs categorized as low in either *ABCB1* or *TMEM14B* expression showed a trend toward poor prognosis, although no significant findings were observed in individual subgroups. However, TNBCs with concurrent low expression of both *ABCB1* and *TMEM14B* exhibited significantly worse progression-free survival and overall survival outcomes.

**Conclusion**

Simultaneous low expression of *ABCB1* and *TMEM14B* in tumor samples is significantly associated with poor prognosis in TNBC, potentially due to intracellular accumulation of metabolites and enhanced cellular stress responses. Further research is needed to elucidate the mechanisms underlying these associations and to develop targeted therapies for TNBC patients with low *ABCB1* and *TMEM14B* expression.