

Title: Prognostic and predictive factors of eribulin in patients with heavily pretreated metastatic breast cancer.

Chin-Yao Lin, M.D.¹、 Dah-Chen, Yea, M.D.²

Department of Breast Medical Center, Taichung Tzu-Chi Hospital¹

Department of Breast Medical Center, Cheng Ching Hospital Chung Kang Branch²

Purpose

A predictive marker for efficacy of eribulin as different-line treatment in metastatic breast cancer has not been identified. We aimed to determine the prognostic and predictive factors for efficacy of eribulin as different-line treatment in metastatic breast cancer patients in a single institution in Taiwan. Method

This retrospective, monocentric study included 49 metastatic breast cancer patients who had been pretreated with anthracyclines and taxanes. They received either eribulin monotherapy or combination anti-Her2 therapy between June 2015 and September 2019. The association of time-to-treatment failure (TTF) with patients' characteristics were assessed.

Results

The median age of patients at eribulin treatment was 55 years. Sixty-five percent were estrogen-receptor positive; 43% were Her-2-positive; and 16% triple negative. Forty-nine percent of patients had more than 2 sites of metastatic organ involvement. Overall, the median TTF was 5.23 months. Median TTF was longer in patients with non-visceral metastases; ECOG status 0-1; eribulin as a ≥ 2 nd line treatment; eribulin combined dual blockades; lymphocyte-monocyte ratio ≥ 3 , or monocyte-lymphocyte ratio < 0.4 (all $p < 0.05$). In patients with eribulin as a > 2 nd line treatment, univariate analysis found that ECOG status < 2 , lymphocyte-monocyte ratio ≥ 3 , and monocyte-lymphocyte ratio < 0.4 were associated with a low risk of treatment failure (all $p < 0.05$). In these patients, multivariate analysis showed that ECOG status < 2 was an independently protective factor for treatment failure ($p < 0.05$). However, these TTF-related factors were not associated with treatment failure in patients with eribulin as ≤ 2 nd or ≤ 3 rd line treatment (all $p > 0.05$). Leukopenia and neutropenia, the most common adverse events, were usually manageable.

Conclusions

ECOG status is a independent predictor for TTF, while lymphocyte-monocyte ratio and monocyte-lymphocyte ratio may have an interactive effect with other biomarkers (e.g. ECOG status) to predict response of eribulin in metastatic breast cancer patients who are receiving a eribulin as >2nd or >3rd line treatment.

Key words: metastatic breast cancer, eribulin, predictive factors

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