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Background: Eribulin is indicated in the European Union for patients with locally advanced or metastatic breast cancer after ≥1 prior chemotherapy for advanced disease, including an anthracycline and a taxane. The license is based on clinical trials which included patients with triple negative breast cancer (TNBC). We sought to evaluate clinical and cost-effectiveness of eribulin in this population using decision analytic modelling.

Methods: Data on OS, PFS and TTD from TNBC patients from two randomized open label studies of eribulin, 305 (NCT00388726) and 301 (NCT00337103), were pooled (N = 352). The comparators were TPC (any single-agent chemotherapy, hormonal or biological treatment; radiotherapy; or symptomatic treatment alone) (305) and capecitabine (301). A partitioned survival model developed for the National Institute for Health and Clinical Excellence submission based on pooled Kaplan-Meier data, accounting for tumour objective response and adverse events with health-state specific utilities mapped from QLQC30 data from study 301 was used. Lifetime horizon with discount rate of 3.5% for costs and quality-adjusted life years (QALYs) was applied. Threshold analysis was based on 2017 UK costs and reimbursement decision criteria.

Results: Use of eribulin versus the pooled comparator of capecitabine or TPC was associated with greater mean overall survival (16.00 vs 12.38 months) and progression-free survival (4.4 vs 3.6 months) with 0.3 life years (LYs) gained and 0.2 incremental QALYs. 77% of LYs and 75% of QALYs were gained in progressive disease. Using UK end of life criteria and considering the patient access scheme price, eribulin falls well within the cost-effectiveness threshold of £50,000/QALY and would be considered cost-effective in the UK setting. The results were sensitive to price of eribulin, utility in the progressive disease state, discount rates and drug administration costs.

Conclusions: Eribulin is cost-effective in the treatment of patients with TNBC after ≥1 prior chemotherapy for advanced disease, including an anthracycline and a taxane in the UK.

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