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Titel des Beitrags: Cost-utility analysis for advanced breast cancer therapy in Germany: results of the fulvestrant sequencing model.

Abstract: Therapy decisions in advanced breast cancer (ABC) increasingly require assessment not only of treatment efficacy but also of cost-effectiveness. To this end, we performed a cost-utility analysis by comparing treatment sequences including/omitting fulvestrant in a hypothetical population of hormone receptor-positive (HR+) postmenopausal women with ABC. The analysis was performed from the German health care perspective. Using a first-order sequential Markov model, expected costs and utilities were calculated over a time horizon of 10 years for cohorts of patients with HR+ ABC, previously treated for at least 5 years using adjuvant endocrine therapies. Utilities were primarily quantified in terms of quality adjusted life years (QALY). "Base-case" estimates of state transition rates, resource utilization, and other model parameters were derived from published evidence and expert assessment. The impacts of uncertainties in all key model parameters were evaluated by sensitivity analysis. Costs and benefits were discounted at 3% annually. Including second-line fulvestrant in the treatment sequence led to greater estimated health gains (0.021 QALY) and cost savings of 564 euros ($745, 380 pounds) per patient, i.e. the fulvestrant-containing sequence was "dominant". The prediction of a cost savings was robust with respect to
variations in all key parameters. The probability of acceptable cost-effectiveness for the fulvestrant sequence was 72% at a willingness to pay (WTP) of 30,000 euros/QALY ($39,621/QALY, 20,198 pounds/QALY); the probability was even higher at lower WTP and substantially exceeded 50% for any realistic WTP. In a representative population of women with HR+ advanced breast cancer, inclusion of fulvestrant in the treatment sequence provides a cost-effective alternative from the German health care perspective. A high probability of cost-effectiveness is maintained under variations in all key parameters. The results reflect a tendency for patients receiving fulvestrant at an early stage to maintain high quality of life for a longer interval.