PCN3

COST-EFFECTIVENESS OF BORTEZOMIB (VELCADE) FOR RELAPSED AND REFRACTORY MULTIPLE MYELOMA

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OBJECTIVES: Currently, no active third-line treatment exists for patients previously treated for multiple myeloma, who fail to respond to conventional chemotherapy. A model was developed to evaluate the costs and benefits of a new proteasome inhibitor, VELCADE, relative to best supportive care. METHODS: A two-part mathematical model of survival was applied to individual patient data from the SUMMIT trial, a multi-center phase 2, single arm trial of adult patients with a life expectancy of more than three months; in the first part the time to disease progression for patients was estimated; the time from disease progression till death was estimated in the second part. Several survival estimation techniques were applied. Resource use data from SUMMIT were used to estimate costs from the perspective of the NHS in the UK for VELCADE administration, hospital care, concomitant medications and diagnostic tests and surgical procedures on an individual patient basis. RESULTS: By delaying the rate at which disease progresses, VELCADE produces survival gains relative to Best Supportive Care that range between 7.75 to 12.09 months of life depending on the assumed survival profile. Additional costs (2003 prices) of the novel agent were £17,290 without accounting for additional costs incurred during the extended period of survival or £24,121 if such costs are included. Combining these results with various survival estimation yields an incremental cost-effectiveness ratio (ICER) for VELCADE in the range of £17,161–£33,539 per life year gained. CONCLUSION: VELCADE has been licensed in Europe and hence information with regard to its clinical and cost-effectiveness is timely. The range of ICER estimates obtained (£17,000–£33,000 per additional life year) demonstrate cost-effectiveness of VELCADE as compared with Best Supportive Care. These ICER estimates compare favourably to other salvage therapies currently in widespread use throughout the UK.

PCN4

COST-UTILITY ANALYSIS OF FULVESTRANT VERSUS EXEMESTANE IN THE SECOND LINE TREATMENT OF POSTMENOPAUSAL WOMEN WITH ADVANCED BREAST CANCER

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OBJECTIVE: To assess the cost-utility of fulvestrant (Faslodex) as a replacement for exemestane (Aromasin) in the second line treatment of postmenopausal women with advanced breast cancer (ABC) in England. METHODS: A Markov model was developed allowing up to three separate lines of treatment. In the scenario studied, patients received fulvestrant or exemestane, followed by megestrol acetate and then a final palliative care package. The clinical pathways and resource use assumptions were based on a survey of UK oncologists. The analysis was from the perspective of the UK National Health Service (NHS) and estimated the total cost and benefits, including quality adjusted life years (QALYs), of two patient cohorts. Clinical evidence was taken from published clinical trials. Unit costs were taken from nationally published sources and reported in year 2003 prices. Treatment each month comprised of drug therapy plus other care, including treatment of adverse events and health care professional visits. Costs varied depending on the health state the patients were in during any month. The time horizon of the model was 11 years. All costs and QALYs within the model were discounted at 3.5%. RESULTS: The model was run with a cohort of 100 patients. When compared against exemestane in second line treatment, the 100 patients on fulvestrant gained an extra 8.1 QALYs for an additional cost of £240,705 giving an incremental cost-effectiveness ratio (ICER) of £29,641 per QALY. CONCLUSIONS: Fulvestrant is likely to produce additional benefits compared with exemestane at an acceptable additional cost, illustrated by the ICER of £29,641 per QALY. The health benefit gain from fulvestrant was driven primarily by both a higher proportion of responders and longer time on second line treatment. The findings suggest that fulvestrant is a cost-effective second line option to the NHS in the UK.

PCN5

COST-UTILITY ANALYSIS OF ANASTROZOLE VERSUS TAMOXIFEN AS ADJUVANT THERAPY IN POSTMENOPAUSAL WOMEN WITH EARLY BREAST CANCER: A UK NATIONAL HEALTH SERVICE PERSPECTIVE

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OBJECTIVES: This study estimated the incremental cost per quality adjusted life year (QALY) gained for anastrozole compared with tamoxifen from the UK NHS perspective, based upon ATAC trial data (Cancer 2003;98:1802–10). In this trial, anastrozole demonstrated superior efficacy and tolerability versus tamoxifen. Cost-effectiveness analysis found that over 25 years anastrozole had an incremental cost-effectiveness ratio (ICER) of GBP11,747 per life-year gained (LYG) among the clinically relevant population of patients with hormone receptor-positive (HR+) EBC. The model was expanded to include patient utilities to meet NICE and Scottish Medicines Committee preferences for cost-utility analysis and to facilitate comparisons across disease areas. METHODS: Patient utilities were elicited from 23 EBC patients on adjuvant hormonal therapy. Using the standard gamble technique, health states relating to adverse events reported in ATAC and breast cancer disease states were compiled and reviewed by clinicians. Utility values were incorporated into the cost-effectiveness model projecting outcomes for anastrozole and tamoxifen to 25 years, based on probability of side effects (ATAC safety data) and time in a particular health state. All parameters (including utilities) were varied in sensitivity analyses. QALYs and unadjusted LYG were compared with cost outcomes. RESULTS: Patients’ valuation of the different health states ranged from 0.71 to 0.99. Differences between incremental LYG and QALYs for anastrozole and tamoxifen were similar (0.3). The discounted ICER of anastrozole compared with tamoxifen was GBP11,506 per QALY gained (95% CI: GBP1771–GBP22,491). CONCLUSIONS: The incorporation of mean-adjusted utility values resulted in only minor improvement in the ICER in favour of anastrozole. Furthermore, sensitivity analysis showed that the ICER was robust to changes in utility scores and that the greatest impact on the ICER remains the improved disease-free survival with anastrozole. Anastrozole provides QALY gains at acceptable costs compared with tamoxifen in the adjuvant treatment of postmenopausal women with HR+ EBC.

PCN6

HOSPITALIZATION COSTS OF PATIENTS WITH INFECTIONS WHO HAVE LUNG CANCER OR NEUTROPENIA IN SWEDEN—A RETROSPECTIVE DATABASE STUDY

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