PCN131

COST EFFECTIVENESS OF BORTEZOMIB, RITUXIMAB, CYCLOPHOSPHAMIDE, DOXORUBICIN AND PREDNISONE FOR THE FIRST-LINE TREATMENT OF MANTLE CELL LYMPHOMA NOT ELIGIBLE FOR STEM CELL TRANSPLANTATION: A SCOTTISH PERSPECTIVE

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OBJECTIVES: Mantle cell lymphoma (MCL) is a rare but aggressive form of non-Hodgkin's lymphoma with one of the poorest outlooks. In Scotland, patients unsuitable for stem cell transplantation (SCT) primarily receive rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone (R-CHOP). The LYM-3002 trial demonstrated that the use of bortezomib, rituximab, cyclophosphamide, doxorubicin and prednisone (VR-CAP) almost doubled progression-free survival (PFS) relative to R-CHOP (24.7 vs 14.4 months; HR=0.63, p<0.001). The objective of this analysis was to assess the cost effectiveness of VR-CAP versus R-CHOP as first-line treatment for MCL-patients unsuitable for SCT, from the perspective of the Scottish National Health Service (NHS). **METHODS:** A cost-effectiveness model was constructed based upon line of treatment, progression status and survival; extrapolating LYM-3002 clinical trial data using parametric models fit to PFS, overall survival (OS) and treatment-free interval Kaplan–Meier curves. Utilities were derived from trial-based EQ-5D data, supplemented with published values for long-term health status. Resource use including second-line treatment was taken from the LYM-3002 trial and UK clinician advice. Costs were derived from standard UK sources. Probabilistic and structural sensitivity analyses were conducted to assess the uncertainty of the results. **RESULTS:** Total lifetime costs were £45,453 and £26,291 for VR-CAP vs. R-CHOP. Treatment with VR-CAP resulted in greater life years (7.49) compared to R-CHOP (6.58), and quality-adjusted life years (QALYs), 4.05 and 3.31 for VR-CAP and R-CHOP, respectively. Thus the additional cost associated with VR-CAP was partially offset by additional benefit; resulting in an incremental cost-effectiveness ratio of £23,020. Probabilistic sensitivity analysis estimated an 82% chance that VR-CAP was cost effective below £30,000/QALY. The model was most sensitive to extrapolation assumptions for PFS and OS and utility associated with post-progression from second-line treatment. **CONCLUSIONS:** VR-CAP is a cost-effective treatment for previously untreated patients with MCL who are unsuitable for SCT in NHS Scotland.

PCN132

COST-EFFECTIVENESS OF VEMURAFENIB AS A FIRST-LINE TREATMENT IN PATIENTS WITH BRAF V600 MUTATION-POSITIVE UNRESECTABLE OR METASTATIC MELANOMA IN SPAIN

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OBJECTIVES: Genetically-targeted therapies are both promising and costly advances in the field of oncology. This study aims to evaluate the cost-effectiveness of vemurafenib versus ipilimumab as first-line treatments in patients with BRAF V600 mutation-positive unresectable or metastatic melanoma from a Spanish healthcare system perspective. **METHODS:** We performed a cost-effectiveness analysis to compare both strategies for patients with BRAF positive metastatic melanoma using a probabilistic model. Since head-to-head trials are not available, overall (complete and partial) response rates were obtained from the phase III randomized-controlled trials of vemurafenib (57.0%; 95% CI 51.6-65.2%) and ipilimumab (15.2%; 95% CI 12.2-18.2%). The cost of treatment regimens was calculated using the recommended dose schedules as per the Summary of Product Characteristics. The treatment duration with vemurafenib was 6.9 months (median progression-free survival). Four doses of ipilimumab were considered. The prices used in the analysis correspond to those currently approved in Spain (in EUR, 2015).Monte-Carlo simulation was chosen as it allows simulating the effect of changes in different parameters obtained from clinical studies and other sources to describe real-life distributions. Parameters used in the simulation were the progression free survival, body weight and overall response rates. Additional threshold sensitivity analyses for possible ipilimumab price discounts were performed. **RESULTS:** 1,000 model iterations were generated. The cost per overall response with vemurafenib and ipilimumab was €111,928 (95% CI €108,403; €115,969) and €447,462 (95% CI €370,285; €538,214) respectively. Therefore, the cost of ipilimumab per patient that responds to treatment would be 4.0 (3.4-4.6) times greater than treating with vemurafenib. The cost per responder would be equal amongst both treatments, only with a discount of 71.1% in the price of ipilimumab. **CONCLUSIONS:** In BRAF V600 mutation-positive unresectable or metastatic melanoma, first-line vemurafenib could reduce the health care costs per overall response in comparison to ipilimumab.

PCN133

THERAPEUTIC AND ECONOMIC VALUE OF EVEROLIMUS PLUS EXEMESTANE FOR THE TREATMENT OF POSTMENOPAUSAL WOMEN WITH HORMONE RECEPTOR-POSITIVE, HER2/NEU NEGATIVE ADVANCED BREAST CANCER

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OBJECTIVES: Up to 70% of women with hormone-sensitive advanced breast cancer (ABC) need further therapy lines following first-line hormonal therapy. Although treatment guidelines provide useful recommendations for treating patients with ABC they rarely compare different treatment options or provide guidance on how to optimize their value. This research aimed to assess the therapeutic and economic value of everolimus 10mg plus exemestane 25mg daily (everolimus+exemestane) in comparison to fulvestrant (500mg intramuscularly on days 0, 14 and 28, and every 28 days thereafter) for the treatment of hormone receptor-positive, HER2/neu negative ABC postmenopausal women who failed first-line hormonal therapy. **METHODS:** We used a discrete-time, state-transition model to estimate the long term overall survival (OS) and treatment costs in ABC patients failing first-line hormonal therapy. Evidence on relative treatment effects concerning OS, progression-free survival (PFS) and discontinuation due to any reason (treatment persistence) and adverse events (tolerability) was estimated using a mixed treatment comparison following a systematic review of randomized clinical trials enrolling post-menopausal women with hormone-sensitive ABC. Health service costs were included and a lifetime perspective adopted (5% annual discount rate). **RESULTS:** Everolimus+exemestane is estimated to significantly delay progression or death (HR PFS = 0.53; 95% CI: [0.37; 0.76]) and to increment life expectancy by 6.8 months in comparison to fulvestrant (HR OS = 0.82; 95% CI: [0.50; 1.36]), resulting in a 0.45 discounted life year (LY) gain. Corresponding incremental health service costs amount to 16,544€/patient starting everolimus+exemestane. This results in an incremental cost-effectiveness ratio of 36,703€/LY gained with everolimus+exemestane. Probabilistic sensitivity analysis showed a greater than 60% probability of everolimus+exemestane being cost-effective against fulvestrant, at a willingness to pay of 50,000€/LY. **CONCLUSIONS:** We evidence how valuable information from clinical trials can be pooled and used to inform about the therapeutic and economic value of guideline recommended therapies for advanced breast cancer.

PCN134

COST-EFFECTIVENESS OF PEMBROLIZUMAB FOR UNRESECTABLE METASTATIC MELANOMA AFTER PROGRESSION WITH IPILIMUMAB IN ENGLAND

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OBJECTIVES: To assess the cost-effectiveness of pembrolizumab to treat unresectable or metastatic melanoma in patients progressing after treatment with ipilimumab, and if BRAFv600positive mutation, a BRAF inhibitor. The relevant comparator is English best supportive care (BSC), including dacarbazine. **METHODS:** A three-state partitioned survival model was developed to estimate the cost-effectiveness of pembrolizumab compared with BSC over a 30 year time horizon. Efficacy and quality of life were derived from KEYNOTE-002, a phase II clinical trial comparing pembrolizumab to investigators choice of chemotherapy. Since overall survival (OS) data were affected by a high degree of crossover, various statistical models were used to adjust for crossover with the 2-stage adjustment, using progression as a secondary baseline, found to be the most appropriate. Pembrolizumab OS was extrapolated using long-term ipilimumab data, supported by results of the KEYNOTE-002 clinical trial, and melanoma clinical experts' feedback on commonality of expected long-term survival profile. Quality of life was based on time to death health states using KEYNOTE-002 EQ-5D data. Adverse events were incorporated based upon KEYNOTE-002 data which showed a favourable safety profile when compared to chemotherapy, with grade 3-5 adverse events numerically higher in the chemotherapy control arm. **RESULTS:** Pembrolizumab was predicted to increase the life expectancy of patients by 1.59 years, which corresponds to a gain of 1.19 QALYS. In the base case analysis, the ICER is £42,923 (confidential discount included). These results are sensitive to curve fit parameters for progression-free survival and the hazard-ratio for overall survival estimated from the cross-over adjustment and a robust to changes in value parameters and assumptions in the cost-effectiveness analysis. **CONCLUSIONS:** As an end of life therapy for English patients with advanced melanoma previously treated with ipilimumab, pembrolizumab is a cost-effective therapeutic option when compared to best supportive care (including conventional chemotherapy).

PCN135

REVISITING THE SIMULATION EVIDENCE FOR THE INCREMENTAL COST-EFFECTIVENESS OF BREAST CANCER SCREENING OF AVERAGE-RISK WOMEN

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OBJECTIVES: Breast cancer screening is established practice in most developed countries, typically with a two-year screening interval. The cost-effectiveness evidence supporting screening is primarily from simulation models. It is recognised that cost-effectiveness analyses (CEAs) of biennial screening should include triennial strategies as comparators if the incremental cost-effectiveness ratio (ICER) is to be correctly estimated. The objective of this study is to assess how many published CEAs of breast screening include triennial comparator strategies against which to compare biennial screening. **METHODS:** We assessed 26 simulation-based CEAs of breast screening of average-risk women identified in a recently published systematic review. We reviewed how many included triennial comparators to biennial screening and assessed the relevant ICERs. **RESULTS:** Of the 26 CEAs, 18 did not include comparators with intervals of three years or more. Therefore the ICER estimates for biennial screening from these studies are on the basis of insufficient comparators. Of the remaining studies, six included the necessary triennial comparators. Of these, two provide ICERs of biennial screening that are clearly acceptable relative to commonly cited willingness to pay thresholds. The results from the remaining four studies leave it unclear if biennial screening is cost-effective. **CONCLUSIONS:** Despite the widely expressed view that breast screening is cost-effective, the proportion of published CEAs that provide appropriately estimated ICERs of biennial screening is small and the number clearly indicating biennial screening is cost-effective is even smaller. This does not suggest that biennal breast screening is cost-ineffective, but rather that most CEAs published to date do not present sufficient evidence to demonstrate cost-effectiveness.

PCN136

ECONOMIC ASSESSMENT OF ERIBULIN AGAINST TREATMENT OF PHYSICIAN'S CHOICE (TPC) IN TAIWAN

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