Cost-effectiveness analysis can help decision-makers to understand the economic value of such technologies. The purpose of our study was to compare the cost-effectiveness of two modern radiation therapy techniques, the stereotactic body radiation therapy (SBRT) and intensity-modulated radiation therapy (IMRT) compared to the 3-dimensional conventional radiation therapy (3DCRT) for treatment of low- to intermediate-risk prostate cancer in Hungary. METHODS: A Markov model was constructed with the following disease states of a 65-year-old patient with organ confined prostate cancer: no evidence of disease after radiation therapy, hormone therapy, chemotherapy, death. Transition probabilities were calculated based on the international literature for SBRT, IMRT and 3DCRT Utility values for each health state were obtained from publically available secondary sources. Costs in the model were calculated based on the Hungarian Health Insurance Fund rates, and were converted to current Hungarian forint value using an exchange rate of 2015. Analysis was conducted from payer perspective for 65-year-old patients over 10 years time horizon. RESULTS: Based on preliminary calculations the expected mean cost of patients undergoing SBRT, IMRT and 3DCRT were 2,201 EUR, 5,704 EUR and 11,549 EUR respectively. Cost effectiveness of SBRT was compared with 3DCRT. Compared to 3DCRT, both IMRT and SBRT were less costly and resulted in more quality of life for patients. Appropriate financial incentives in the DRG system should be considered. CONCLUSIONS: Our model suggests that, from the perspective of the UK NICE and the payer, status-guided treatment strategy across first- and second-line treatment of NSCLC is not cost-effective compared with a strategy dependent on mutational status.

PCN124 COMPARE\OR COST-EFFECTIVENESS STUDY OF MODERN RADIATION THERAPIES IN HUNGARY FOR LOCALIZED PROSTATE CANCER

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OBJECTIVES: The introduction of innovative medical devices with high investment and high running costs requires substantial financial constraints. Cost-effectiveness analysis can help decision-makers to understand the economic value of such technologies. The purpose of our study was to compare the cost-effectiveness of two modern radiation therapy techniques, the stereotactic body radiation therapy (SBRT) and intensity-modulated radiation therapy (IMRT) compared to the 3-dimensional conventional radiation therapy (3DCRT) for treatment of low- to intermediate-risk prostate cancer in Hungary. METHODS: A Markov model was constructed with the following disease states of a 65-year-old patient with organ confined prostate cancer: no evidence of disease after radiation therapy, hormone therapy, chemotherapy, death. Transition probabilities were calculated based on the international literature for SBRT, IMRT and 3DCRT Utility values for each health state were obtained from publically available secondary sources. Costs in the model were calculated based on the Hungarian Health Insurance Fund rates, and were converted to current Hungarian forint value using an exchange rate of 2015. Analysis was conducted from payer perspective for 65-year-old patients over 10 years time horizon. RESULTS: Based on preliminary calculations the expected mean cost of patients undergoing SBRT, IMRT and 3DCRT were 2,201 EUR, 5,704 EUR and 11,549 EUR respectively. Cost effectiveness of SBRT was compared with 3DCRT. Compared to 3DCRT, both IMRT and SBRT were less costly and resulted in more quality of life for patients. Appropriate financial incentives in the DRG system should support the uptake of cost-effective hospital technologies in Hungary.

PCN125 SYSTEMATIC CRITICAL REVIEW OF ECONOMIC EVALUATIONS OF RITUXIMAB ADDED TO CONVENTIONAL CHEMOTHERAPY REGIMES IN THE TREATMENT OF PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA REFRactory

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BACKGROUND: Invasive fungal infections (IFIs) are an important cause of morbidity and mortality in immunocompromised patients. Based on the pathogen identification status, either empirical (without diagnosis) or targeted (with diagnosis) anti fungal therapy is administered to symptomatic patients (e.g. with fever). Several antifungal treatments are available and their cost-effectiveness is often evaluated using decision analytic models (DAMs). OBJECTIVES: The objective was to review all published DAMs used in economic evaluations of empirical/targeted antifungal treatments for IFIs. METHODS: We systematically reviewed literature included in PubMed, EMBASE, Lilacs, Database of the Brazilian Network for Technology Assessment (SISREBRATS), and MEDLINE via PubMed. Aiming to meet economic requirements for DAMs on antifungal treatments of IFIs, we extracted data from control arms of published randomized controlled trials. Costs data were obtained from NHS Reference Costs, British National Formulary, list prices for high-cost antifungal agents, and clinical trial reports. We used Markov modeling to parameter changes, showing greatest sensitivity to variation in overall survival parameters. RESULTS: Our model suggests that, from the perspective of the UK NICE and the payer, status-guided treatment strategy across first- and second-line treatment of NSCLC is not cost-effective compared with a strategy dependent on mutational status.

PCN126 WHAT IS THE MOST COST-EFFECTIVE STRATEGY FOR TREATING CHRONIC MYELOID LEUKEMIA AFTER IMATINIB LOSSES PATENT EXCLUSION IN EUROPE?

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OBJECTIVES: To analyze the cost-effectiveness of treating all chronic-phase chronic myeloid leukemia (CML) patients with imatinib initially continued to physician choice between imatinib or the second-generation tyrosine kinase inhibitors (TKIs) dasatinib or nilotinib. Imatinib will lose patent exclusion between 2015-2016 and its price is expected to drop 60-90% within one year throughout Europe. METHODS: A Markov model that simulated “step-down therapy” compared to “physician-choice” in CML in 2015 through 2035. The model assumes stabilized prices of second-generation TKIs, but discontinues first 6-months; 60-80% for second 6-months, and 10-30% thereafter. For each drug, tolerance, efficacy and the probabilities of treatment choice, switching and failure were drawn from published clinical trials. Quality-adjusted life years (QALYs) were based on U. K. preference weights (Gaultney et al. 2010). Accordingly, we tried to keep the budget to parameter changes, showing greatest sensitivity to variation in overall survival parameters. CONCLUSIONS: Our model suggests that, from the perspective of the UK NICE and the payer, status-guided treatment strategy across first- and second-line treatment of NSCLC is not cost-effective compared with a strategy dependent on mutational status.

PCN127 LITERATURE REVIEW OF DECISION-ANALYTICAL MODELS USED IN THE ECONOMIC EVALUATION OF EMPIRICAL/TARGETED ANTIFUNGAL TREATMENTS FOR INFECTIVE FUNGAL INFECTIONS

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BACKGROUND: Invasive fungal infections (IFIs) are an important cause of morbidity and mortality in immunocompromised patients. Based on the pathogen identification status, either empirical (without diagnosis) or targeted (with diagnosis) antifungal therapy is administered to symptomatic patients (e.g. with fever). Several antifungal treatments are available and their cost-effectiveness is often evaluated using decision analytic models (DAMs). OBJECTIVES: The objective was to review all published DAMs used in economic evaluations of empirical/targeted antifungal treatments for IFIs. METHODS: We systematically reviewed literature included in PubMed, EMBASE, Lilacs, Database of the Brazilian Network for Technology Assessment (SISREBRATS), and MEDLINE via PubMed. Aiming to meet economic requirements for DAMs on antifungal treatments of IFIs, we extracted data from control arms of published randomized controlled trials. Costs data were obtained from NHS Reference Costs, British National Formulary, list prices for high-cost antifungal agents, and clinical trial reports. We used Markov modeling to parameter changes, showing greatest sensitivity to variation in overall survival parameters. RESULTS: Our model suggests that, from the perspective of the UK NICE and the payer, status-guided treatment strategy across first- and second-line treatment of NSCLC is not cost-effective compared with a strategy dependent on mutational status.