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PODIUM SESSION I: HTA IN CANCER STUDIES AND METHODS

CN1

EFFICACY OF THE COMBINATION BEVACIZUMAB PLUS CHEMOTHERAPY (BEV-CT) COMPARED TO CT ALONE IN PREVIOUSLY UNTREATED LOCALLY ADVANCED OR METASTATIC NON-SMALL CELL LUNG CANCER (NSCLC): SYSTEMATIC REVIEW (SR) AND META-ANALYSIS (MA)

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OBJECTIVES: To perform SR with MA of all randomized controlled trials (RCT) comparing the efficacy of BEV-CT versus CT alone in previously untreated locally advanced or metastatic NSCLC. **METHODS:** We searched MEDLINE, EMBASE, LILACS, and CENTRAL among others. Primary end points were overall survival (OS) and progression-free survival (PFS). Adverse events (AE) were analyzed. Extracted data were combined using hazard ratio (HR) or risk ratio (RR) with 95% confidence intervals (CI 95%). **RESULTS:** 544 references were identified and screened, three trials comprising 2020 patients were included. Overall response rate (RR = 0.53; CI 95% = 0.44 to 0.64; $P < 0.00001$) and PFS were higher in BEV-CT (HR = 0.71, CI 95% = 0.63 to 0.80; $P < 0.00001$), however with significant heterogeneity ($\chi^2 = 4.9$, $df = 2$ [$P = 0.09$]; $I^2 = 59\%$) and ($\chi^2 = 4.33$, $df = 2$ [$P = 0.11$]; $I^2 = 54\%$), respectively. Random-efffects model analysis favored BEV-CT. OS was higher in BEV-CT but with significant heterogeneity ($\chi^2 = 5.92$, $df = 3$ [$P = 0.12$]; $I^2 = 49\%$) and random-effects model analysis was not statistically significant (HR = 0.86, CI 95% = 0.71 to 1.05; $P = 0.15$). Neutropenia (RR = 0.77; CI 95% = 0.65 to 0.91; $P = 0.002$) and febrile neutropenia (RR = 0.42; CI 95% = 0.22 to 0.81; $P = 0.009$) were higher on BEV-CT. Rates of anemia (RR = 1.41; CI 95% = 0.93 to 2.13; $P = 0.1$) and thrombocytopenia (RR = 0.91; CI 95% = 0.69 to 1.20; $P = 0.50$) were similar. Non-hematologic toxicities were higher on BEV-CT: hemoptysis (RR = 0.28; CI 95% = 0.09 to 0.90; $P = 0.03$), hypertension (RR = 0.15; CI 95% = 0.07 to 0.30; $P < 0.00001$), proteinuria (RR = 0.05; CI 95% = 0.01 to 0.41; $P = 0.005$), venous thromboembolic events (RR = 0.87; CI 95% = 0.51 to 1.47; $P = 0.6$), vomiting (RR = 0.41; CI 95% = 0.22 to 0.77; $P = 0.005$), rash (RR = 0.19; CI 95% = 0.04 to 0.88; $P = 0.03$), epistaxis (RR = 0.32; CI 95% = 0.03 to 3.10; $P = 0.33$) and bleeding events (RR = 0.27; CI 95% = 0.13 to 0.56; $P = 0.0004$). **CONCLUSIONS:** The combination BEV-CT increased the response rate and PFS in patients with NSCLC. Benefits in overall survival remain uncertain, and toxicity rates were higher in the combination group.

CN2

REAL-WORLD COST-EFFECTIVENESS OF OXALIPLATIN IN STAGE III COLON CANCER: A SYNTHESIS OF TRIAL DATA WITH DATA FROM DAILY CLINICAL PRACTICE

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OBJECTIVES: Previous cost-effectiveness analyses of oxaliplatin have been based on randomized trial settings which may not reflect actual daily practice. The objective of this study was to examine the real-world cost-effectiveness of oxaliplatin plus fluoropyrimidines versus fluoropyrimidines only, as adjuvant treatment of colon cancer. **METHODS:** A Markov model was developed to estimate lifetime costs and quality-adjusted life-years (QALYs) from a hospital perspective. Dutch real-world (RW) population-based data on use, costs, and disease-free survival after oxaliplatin use were combined with published efficacy data from the pivotal clinical registration trial (MOSAIC trial). Eighty-two percent of the patients in the RW study fulfilled the MOSAIC trial eligibility criteria ("eligibles"); the other 18% ("ineligibles") had a poorer prognosis. The efficacy of the comparator was modelled using MOSAIC trial results. Cost-effectiveness analyses (CEAs) were performed for four different scenarios: 1) CEA based on MOSAIC trial patients; 2) CEA using eligible RW patients; 3) CEA using both eligibles and ineligibles, assuming that oxaliplatin had an equal effect in both groups; and 4) CEA using eligibles and ineligibles, assuming oxaliplatin had no effect among ineligibles. **RESULTS:** MOSAIC and eligible RW patients had similar 2-year disease-free survivals (79% vs. 78%). Oxaliplatin showed an incremental QALY gain of 0.86, 0.73, 0.81, and 0.60, and incremental costs of €13,105, €13,278, €13,225, and €13,456 in scenarios 1 to 4, respectively. The corresponding incremental cost-effectiveness ratios (ICERs) were €15,185, €18,115, €16,254, and €22,387 in scenarios 1 to 4, respectively. Sensitivity analyses of input parameters and model assumptions produced only minimal differences in the estimated ICERs showing the robustness of the model results. **CONCLUSIONS:** The real-world cost-effectiveness of oxaliplatin plus fluoropyrimidine versus fluoropyrimidine for the treatment of colon cancer can be estimated using different scenarios. We found that the various estimates were very similar, and all suggest that oxaliplatin is cost-effective.

CN3

COST OF ABSENTEEISM DUE TO CANCER IN POLAND

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OBJECTIVES: Cancer is a leading cause of death worldwide and major health problem. It's also a huge problem to worldwide economy due to high both direct and indirect costs. The aim of this study was to evaluate absenteeism costs of cancer in Poland in 2007. **METHODS:** Sickness absence data and data on disability were derived by ZUS (Social Insurance Institution). Costs of lost productivity due to premature death were estimated based on regional register data on cancer mortality (KRN—National Cancer Registry). Absenteeism costs were estimated based on gross value added per employee derived by Central Statistical Office (GUS). The analyses of indirect costs due to sickness absence were based on an assumption that number of missed days includes only working days (226 days per year). Human capital approach was used to estimate the absenteeism costs. Values are presented in Euro (exchange rate: 1 EUR = 4.10 PLN). **RESULTS:** Costs of lost productivity due to illness and disability were estimated to amount of €1081 million (€451 and €630 million, respectively). Costs of lost productivity due to premature death were estimated to amount of €4692 million and were twice as high in male population compare to female population (€3200 and €1492 million, respectively). The highest costs of lost productivity due to premature death were related to lung cancer (€1331 million) followed by brain (€356 million), stomach (€314 million), and breast cancer (€259 million). Lung cancer was the leading cost of lost productivity due to premature death in male population (€917 million), while breast cancer dominated in female population (€255 million). **CONCLUSIONS:** Indirect costs of lost productivity due to cancer-related illness, disability, and premature death are substantial to polish economy and may account for near 0.6% of PKB loss in 2007 year.

CN4

HPV-BASED PRIMARY CERVICAL CANCER SCREENING IN GERMANY. COST-EFFECTIVENESS RESULTS FROM A DECISION-ANALYTIC MODELING STUDY

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OBJECTIVES: The objective of this HTA commissioned by the German Agency for Health Technology Assessment (DAHTA@DIMDI) and the Federal Ministry of Health was to systematically evaluate the long-term effectiveness and cost-effectiveness of HPV-based primary cervical cancer screening for the German health care context using a decision analytic approach. **METHODS:** A Markov model simulating the natural history of cervical cancer was developed and validated for the German health care context. Different screening strategies were evaluated, including cytology alone, HPV testing alone or combined with cytology or with cytological triage for HPV-positive women, and different screening intervals. German clinical, epidemiological and economic data were used. Test accuracy data were retrieved from international meta-analyses. Predicted outcomes were reduction in cervical cancer cases and deaths, life expectancy, and discounted incremental cost-effectiveness ratios (ICER). a perspective of the health care system and 3% annual discount rate were adopted. Extensive sensitivity analyses were performed to evaluate robustness of results. **RESULTS:** HPV-based screening was more effective than cytology alone, with 71%–97% (depending on screening intervals) relative reduction in cervical cancer compared to 53%–80% for cytology. The ICER ranged between €2,600/LYG (cytology, 5-yr-interval) and €155,500/LYG (annual HPV-testing age 30 yrs, cytology 20–29 yrs). Annual cytology, the current recommended screening strategy in Germany, was dominated by other strategies. Increasing screening start-age to 25 yrs had no relevant loss in effectiveness but resulted in lower costs. **CONCLUSIONS:** Based on our analyses, HPV-based cervical cancer screening is more effective than cytology and could be cost-effective, when performed at intervals of 2 years or longer. For the German screening context, an optimal screening strategy could be biennial HPV testing starting at age 30 yrs and biennial cytology at the age 25–29 yrs. An extension to a 3-yearly screening interval may be considered for low-risk women with good screening adherence or in populations with low HPV incidence.

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