The cost of second-line treatment of ovarian cancer in Polish settings

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OBJECTIVES: To evaluate direct treatment cost associated with pegylated liposomal doxorubicin hydrochloride (PLD) and topotecan used as second line therapies for ovarian cancer in Poland. METHODS: The literature review showed topotecan and PLD have similar efficacy in platinum-refractory or platinum resistant advanced ovarian cancer but different adverse events profile. The cost-minimization analysis was performed from the payer’s perspective. Only direct medical costs (i.e. drug acquisition costs, drug administration costs and managing adverse events costs) were included. Based on epidemiological data budgetary impact of PLD treatment in Poland was estimated. RESULTS: The acquisition and drug administration costs were estimated at €12,448 and €6935 for PLD and topotecan, while cost of managing adverse events at €134 and €1234 for PLD and topotekan, respectively. The total cost per patient summed up to €12,882 for PLD and €8169 for topotecan. 38% reduction in acquisition cost of PLD would balance topotecan associated costs. Epidemiological data indicated 985 platinum-resistant or platinum-refractory ovarian cancer patients in Poland were eligible annually for treatment with PLD, thus additional cost could be estimated at €4.64 million. CONCLUSIONS: PLD represents an attractive treatment strategy in second line therapy of platinum-resistant or platinum-refractory ovarian cancer, although acquisition cost reduction is necessary were compared to topotecan in Polish settings.

Population-based budget impact model of aprepitant (Emend) in moderately emetogenic chemotherapy (MEC)

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The clinical study phase III 071 has showed the new antiemetic Aprepitant in association with a standard therapy (corticosteroid plus a 5-HT3 receptor antagonist) increases significantly the complete response (no vomiting and no rescue treatment) by more than 10 points compared to the standard therapy used in MEC. OBJECTIVES: To evaluate the budget impact implied by the introduction of this new antiemetic on the French sickness funds. METHODS: The MEC were defined according to the recommendations of the Multinational Association of Supportive Care in Cancer (2004). A sample of patients was extracted from the ONCO IMS 2004 database. The inclusion criteria used were: to receive a MEC in association with an antiemetic one containing a corticosteroid and a 5-HT3 receptor antagonist and to have this treatment during the acute and delayed periods. Prices of the antiemetic treatments were taken from the GERS 2004 database. A budget impact model was implemented over a period of four years, based on a stable population and on different penetration and substitution rates of Aprepitant. RESULTS: The results are reported for 10,000 MEC cycles associated to the standard therapy. The penetration and substitution rates of Aprepitant increase over the period from 10% to 25% and from 70% to 95%, respectively. In 2004, the treatment cost is €466,000. The introduction of Aprepitant increases the cost of the acute phase but decreases it in the delayed one. In the ambu-

Cost of care and economic impact of cetuximab in the treatment of metastatic colorectal cancer in Spain

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OBJECTIVES: The aim of this study was to estimate costs of care associated with metastatic colorectal cancer (MCCR) in current clinical practice and the potential impact on the Spanish health care budget of cetuximab prescription to patients with MCCR. METHODS: In order to describe treatment patterns and to analyse costs of MCCR, a cost of care treatment model was constructed. The economic impact of cetuximab was estimated by means of a treatment model for third-line use of the cetuximab combination after second-line irinotecan failure. Treatment patterns were obtained from questionnaires filled out by 14 Spanish hospitals and from an advisory board of 5 clinical experts. Treatment algorithms were constructed by using Tree Age Data Pro software. In order to estimate the unit costs, Diagnostic Related Groups were used for inpatient services, while outpatient services were calculated on daily based rates. Unit costs were obtained from national databases (€2004). The treatment costs were calculated from the perspective of the Spanish National Health System. The incidence of MCCR was obtained from literature review. RESULTS: For a population of 10,350 patients with MCCR in Spain, the total cost (pharmacological and medical costs) was estimated in €151 million. In that scenario, the cost of care of patients at third-line therapy that had failed to irinotecan therapy amounted €1.5 million. With the introduction of cetuximab after second-line irinotecan failure, a maximum of 193 patients were estimated to be eligible for the new drug. In this scenario, the total cost of the third-line therapy would come to €4.7 million. CONCLUSIONS: Cetuximab in combination with irinotecan is the only third-line therapy indicated in MCCR after irinotecan failure. If the eligible patients in third-line therapy received cetuximab and irinotecan instead of current clinical practice, the economic impact of substitution would amount €3.2 million.

Chemotherapy. METHODS: An analysis of the IMS Health ONCO Combined, LMPH, EHP, GERS databases allowed identifying the anti-emetic schemes used in this indication in 2002, to draw up the market trend in ambulatory care and in hospital, and to determine the cost of corresponding consumption. A budget impact model was built over 4 years with several scenarios. The results are reported for 10,000 HEC cycles with a reduction in the use of the cisplatin of 5% per year, a 10%, 15%, 20%, 25% penetration rate of aprepitant, and a substitution rate in the delayed phase increasing from 30% to 90% over the period. RESULTS: The market share of 5-HT3 receptor antagonists was equal to 76% of the HEC market in 2002. In ambulatory care, the average cost of setrons in acute phase d1 and both in acute and delayed phases amounts respectively €26.90 and €112.25 per chemotherapy cycle. In hospital the corresponding figures are €33.02 and €147.50. The antiemetic treatment cost without aprepitant rises to €774,000 the first year and to €664,000 the fourth year. The net budget impact due to the introduction of aprepitant is €46,000 the first year and €41,000 the fourth year, i.e. less than 6% each year. In ambulatory care, this differential is €23,000 the first year and becomes nearly null cost over the four years. CONCLUSION: The overcost generated by the use of aprepitant is small for the French sickness funds compared to the overall antiemetic treatment cost.
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latory care sector the cost decreases over the four years. Every year the net budget impact due to Aprepitant is less than 3%. The fourth year, the treatment cost with Aprepitant is equal to €478,000. CONCLUSION: The additional costs caused by the introduction of Aprepitant seem fair compared to the gain in terms of complete control of vomiting.

COST ANALYSIS OF 3-YEARS FOLLOW-UP OF A TRASTUZUMAB TREATED COHORT
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OBJECTIVES: To evaluate the economic impact of trastuzumab treatment in Metastatic Breast Cancer (MBC). Trastuzumab therapy is initiated in MBC patients over-expressing HER2. The product is licensed in monotherapy for patients pre-treated with anthracyclines and taxanes, or associated with paclitaxel for patients pre-treated by anthracyclines. METHODS: HERMES is a phase IV multicentric prospective study funded by the French ministry of health, evaluating the clinical, biochemical and pharmaco-economic aspect of trastuzumab treatment on MBC. HER2 status was determined by Immuno-histochemistry or FISH methods and H-ECD (HER2 Extra-Cellular Domain) status by ELISA technique. Only HER2 3+ or 2+ and FISH+ patients received treatment. Four protocols were administered: trastuzumab + paclitaxel weekly (TP1) or three weekly (TP3) and trastuzumab weekly (T1) or three weekly (T3). Responses were evaluated according to RECIST criteria then compared to H-ECD levels. Treatment costs were calculated by adding DGR costs (2004) and onerous drug reimbursed over DGRs. RESULTS: In a 3-years period, 120 patients were pre-included and 88 included. In intention to treat there were 62 TP1, 25 TP3, and 1 T1. Time to Treatment Failure is 30 weeks [23–35]. 81 patients stopped treatment: 67% for progression, 16% for cardiac toxicities. Overall survival is 60 weeks [48–80]. Time to Progression is 34 weeks [27–43]. After 2 months, on 27 patients, relative risk of progression is of 2.2 for patients with H-ECD increase. On 22 patients with H-ECD diminution, 20 were responding to treatment. Overall patient management cost is of €4,178,000. Average pre-inclusion screening cost is of €829 per patient. Average treatment cost on 36 weeks reaches €46,345 per patient including 72% for drug acquisition, 23% for administration, 1% for laboratory assessments, 3% for cardiac assessment, 1% for tumour volume assessment. CONCLUSIONS: From an economic perspective, HER2 assays are cost effective: they are less expensive than cytotoxic and/or trastuzumab treatments.

INITIATION OF TRANSDERMAL OPIOID THERAPY IN CANCER PATIENTS WITH MODERATE OR SEVERE MALIGNANT PAIN—TREATMENT PATTERNS AND COSTS IN A GERMAN UNIVERSITY HOSPITAL
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OBJECTIVES: To describe treatment patterns and determine direct medical costs of initiating transdermal opioid systems in cancer patients with moderate or severe malignant pain. The study was conducted to test the feasibility of a pharmacoeconomic investigation in the selected patient group. Direct medical costs per patient and hospital day were calculated from hospital provider perspective. METHODS: Observational, prospective cross-sectional study in six units (wards, day clinics) of a university hospital. A four-week observation period started with initiation of the transdermal opioid therapy. Data were obtained from medical charts and patient diaries. Costs for hospital stay were only included when pain therapy was the only reason for hospital admission. RESULTS: Twenty-eight consecutive patients with solid tumours were evaluated (gastrointestinal (39%), urologic (25%), thoracic (14%), CUP (21%). Twelve patients completed diaries. Participants had a mean age of 61.5 years (range: 38–81), 71% were female and 29% were opioid-naïve. Six patients died during the observation period. In 71%, selected doses were in accordance with conversion rates given by the manufacturers. Mean patch wearing-time was 3.1 days (range: 2.3–3.6). Average length of stay from first patch application to hospital discharge was 5.7 days. 39% of the patients received anti-emetic prophylaxis or treatment and 29% laxatives to manage opioid side-effects. From hospital provider perspective mean direct costs were €54 per patient per day. Costs for hospital stay accounted for the largest portion (€46, 85%). Costs of pain therapy averaged out €8 (15%), €4 (42%) was analgesic costs and €4 (51%) application costs. Daily adverse-event management accounted for €1 per patient. CONCLUSIONS: Costs for the hospital stay to initiate transdermal opioid therapy were the major cost driver from hospital provider perspective. Although constipation and emesis prophylaxis is recommended by pain management guidelines, in clinical practice a substantial portion of patients didn’t receive adequate prophylaxis.

COST COMPARISON ANALYSIS OF INTRAVENOUS VERSUS COMBINED INTRAVENOUS-ORAL CHEMOTHERAPY IN ADVANCED NON-SMALL CELL LUNG CANCER
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OBJECTIVES: To compare costs of intravenous versus intravenous-oral application of cisplatin-etoposide (PE) and cisplatin-vinorelbine (PN) recommended in NSCLC treatment in Poland. METHODS: The data of medical resources consumed were collected retrospectively in three major oncology centers in Poland; among patients with advanced NSCLC (stage IIIb and IV), treated with intravenous regimen of PE or PN. The payers perspective were used and direct medical cost were assessed. All medical care consumption in intravenous regimen was estimated from the patients’ medical chart and the information of costs were derived from the medical valuation system used by National Fund of Health in 2005. All cost were in polish zloty (in 2005: $1 = 3.35 zloty). The resources consumption in combined intravenous-oral regimen was simulated basing on therapeutic guidelines of oral regimen of analyzed chemotherapy. We assume that patient was given intravenous therapy on 1st day (in both schemes) and oral dose instead of intravenous the following days. Such combination let to reduce the number of hospitalizations due to cytostatics application. RESULTS: The total costs of PN scheme in intravenous and combined regimen for one patient was the same and amount to ZL23,416, which means the savings due to hospitalization were compensate by increased dose of oral vinorelbine. Despite the increased dose of oral etoposide the 1228zl difference between intravenous and combined application was found in PE scheme. The total costs of treating NSCLC using intravenous and combined PE regimen were 12,660zl and 11,432zl respectively. CONCLUSIONS: Our analysis showed that both combinations of intravenous-oral chemotherapy could be considered as alternatives for intravenous regimen.