OBJECTIVES: All recombinant human growth hormones (rhGH) have the same molecular structure, but they are not identical in terms of efficacy, safety, and costs, with no same reimbursement in the Czech Republic (CR). All rhGH are currently administered subcutaneously once or twice a day, depending on in-applicators. Easypod is the only applicator that enables monitoring the dose, time, and date of each injection. We aimed to evaluate the clinical effectiveness and the cost-effectiveness of monitored rhGH treatment administered by Easypod with an increase in reimbursement of 10% compared to the standard non-monitored rhGH administration in CR. METHODS: The interim results (n=596) of an ongoing multicenter, non-comparative, observational, longitudinal study (ECOS) were used to populate deterministic cohort model. The model simulated long-term costs and benefits development of rhGH treatment. Evaluation was developed primarily on evidence-based connection (from ECOS) between the reported costs and patient adherence to the treatment. Increased adherence of monitored patients was transferred to the increased effectiveness of the treatment, based on published data. The model was also applied to other therapeutic alternatives for the original treatment taking into account the increased quality of life, using QALY as the target parameter using empirical transformation. Costs were expressed from the payer’s perspective. RESULTS: Due to an increased adherence in monitored patients, the hypothetical cohort of 10,000 patients experienced 9,517 incremental QALY and CZK1.6 billion incremental costs in a lifetime horizon. A hypothetical cohort of 10,000 girls generated 11,504 incremental QALY and CZK1.35 billion incremental costs. The average cost per 1 QALY (ICER) is approximately CZK575,000 for the patient with GHD. CONCLUSIONS: Monitoring of the treatment may lead to an increased adherence and more effective treatment at relatively low cost, hence being considered cost-effective. Sensitivity analysis showed that ICER did not exceed CZK500,000 per the considered uncertainty.

PN28 THE COST EFFECTIVENESS OF BG–12 (DIMETHYL FUMARATE) FOR THE TREATMENT OF RELAPSING–REMITTING MULTIPLE SCLEROSIS IN CANADA

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OBJECTIVES: Multiple sclerosis (MS) causes significant disability and diminished quality of life globally. BG–12 is a new oral treatment for relapsing forms of MS that is currently approved in the US and Canada and is under regulatory review in Europe. The cost-effectiveness model was developed to compare the health economic impact of BG–12 against other disease-modifying therapies (DMT’s) as first-line treatment for relapsing-remitting MS (RRMS) from a Ministry of Health perspective in Canada. METHODS: A cohort-based Markov model was developed to simulate patients’ progression through a series of health states, based on the Kurtzke Extended Disability Status Scale (EDSS) over a lifetime horizon. Patients entered the model based on a distribution of baseline EDSS scores, from which they could either progress, remain stable, or deteriorate to a higher/low EDSS state and remain in the same state. Relapses could occur at any EDSS score. Results from a mixed-treatment comparison were used to inform model inputs for disease progression and relapse rates per treatment. In addition to the overall discontinuation rates reported in trials, patients discontinued treatment on conversion to secondary-progressive MS or reaching EDSS 7. Costs included direct medical costs stratified by EDSS score, along with relapse, adverse events (AEs), and treatment-related costs. Utilities were accrued based on Canadian EDSS state, along with the physiological model of AEs and caregiver burden. A 5% discount rate was applied. RESULTS: Compared with glatiramer acetate, BG–12 yielded 0.396 incremental quality adjusted life years (QALY) at an incremental cost of CAD229,437, resulting in an ICER of CAD56,649. Compared with RebiPrag 44mg, BG–12 resulted in an ICER of CAD10,669. Results were consistent across a wide range of one-way and probabilistic sensitivity analyses. CONCLUSIONS: Based on traditional cost-effectiveness thresholds in Canada, BG–12 could be considered a cost-effective option compared to other first line DMTs in monotherapy and IFN–GA combined, it may be concluded that the first is a dominant strategy.

PN30 ECONOMIC EVALUATION OF THE TREATMENT COMPLIANCE IN PATIENTS WITH PARKINSON’S DISEASE RECEIVED DIFFERENT PREPARATIONS OF LEVODOPA

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OBJECTIVES: To assess the cost-effectiveness of two conventional combinations of levodopa and decarboxylase inhibitors (benserazide or carbidopa) in the treatment of Russian patients with Parkinson’s disease. METHODS: The pharmacoeconomic model was developed based on the data from multicentre randomized controlled trials (Feigin et al., 1976) on the efficacy and tolerability of levodopa-benserazide and levodopa-carbidopa in the treatment of patients with Parkinson’s disease previously not treated with levodopa. A six-month time horizon was selected. The Markov model analysis used a nominal preparation of levodopa-benserazide and costs of the available in Russia generic preparations of levodopa-carbidopa and considered on-demand antiemetic treatment with domperidone to reduce the incidence of gastrointestinal side effects below the conditional “willingness to pay ratio” estimated for the year 2012. Total costs in levodopa-benserazide group were 912,264 90 RUB per 100 patients and varied from 682,154.60 RUB to 1,255,226.00 RUB in levodopa-carbidopa groups. The cost-effectiveness ratios (CERs) were 15,602.03 RUB and 21,988.11 – 45,866.08 RUB per one patient with full compliance to the protocol in the levodopa-benserazide and levodopa-carbidopa groups, respectively. The similar results were observed for the CERs per one patient per year without side effects. CONCLUSIONS: The present study has demonstrated that administration of levodopa benserazide is an economically effective strategy in the treatment of Russian patients with Parkinson’s disease.

PN31 PHARMACOECONOMIC ANALYSIS OF DIFFERENT ANTI-PARKINSONIANS DRUGS USED IN MONOTHERAPY DURING EARLY STAGES OF PARKINSON DISEASE

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OBJECTIVES: To evaluate the cost-effectiveness ratio of antiparkinsonian medication with the presence of levodopa-carbidopa (LC) in early stage and monotherapy with pramipexole ER (TC) with a variable discount to determine the potential cost-effectiveness of these two classes of antiparkinsonian drugs in patients with Parkinson’s disease (PD). METHODS: A cost-effectiveness analysis (CEA) of therapies including pramipexole ER, prami- pexole, ropinirole, piribedil and rasagiline has been performed. Direct medical costs including costs of medications and treatment of adverse drug effects for 1-year therapy of PD have been considered. The clinical effect of selected antiparkinsonian medication was assessed in percent of patients responding to treatment, and also by means of the UPDRS III-II scale. All calculations were done in RUR prices of 2013 (nominal exchange rate RUR/USD = 35.1). RESULTS: Pramipexole ER has the lowest cost-effectiveness ratio (CER) of RUR 57,572 per patient/year responding to antiparkinsonian therapy. Hence, pramipexole ER was the most effective antiparkinsonian pharmacotherapeutic class. Based on cost-effectiveness ratio, the medications evaluated can be arranged in the following order: pramipexole ER (RUR 57,572), pramipexole (RUR 59,548), piribedil (RUR 70,921), ropinirole (RUR 71,887), and rasagiline (RUR 91,112). The model results were robust to different sensitivity analyses. CONCLUSIONS: Absence of direct comparative evidence from randomized, double-blind, controlled studies makes interpretation of the data difficult. Only short-term studies (up to 24 months) were available and hence do not allow to evaluate the influence of pharmacotherapy on motor fluctuations as well as other longterm factors. CONCLUSIONS: The results of the present pharmacoeconomic analysis indicate that pramipexole ER is cost-effective as first line therapy for the treatment of early stages of Parkinson’s disease from a Russian health care perspective. All five formulations evaluated, are well below the conditional “willingness to pay ratio” (equal to RUR 1,308,607 in 2012). Hence, these preparations would qualify for application in the Russian system of public reimbursement.

PN32 COST-EFFECTIVENESS ANALYSIS OF LACOSAMIDE COMPARED WITH STANDARD OF ANTI-EPILEPTIC CARE BASED ON CLINICAL PRACTICE DATA

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OBJECTIVES: To perform a cost-utility analysis of lacosamide as add-on therapy to standard antiepileptic drugs (AEDs) compared to standard AEDs alone based on individual patients data derived from actual clinical practice in the Czech Republic. METHODS: Based on an actual treatment with lacosamide in patients with epilepsy treated with lacosamide for 6 months in actual clinical practice, we developed a cost-utility Markov cohort model. The model has 4 basic health states defined according to the scale of the Clinical Practice Data. The first cycle length was determined as a 3-month period for the first step. The threshold for new patients was increased to CZK 28,000 onwards, independent of the maximum that the Czech NHS is willing to pay for avoiding relapses. CONCLUSIONS: A showed to be less when treated with GA (13.843) compar- ison taken as monotherapy in patients with Parkinson’s disease (PD).

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