with prescribed drug therapy, such as antimuscarinic agents. We evaluated cost-effectiveness outcomes associated with tolterodine extended release (TER), oxybutynin immediate release (OIR), and no active drug treatment in Germany and the UK (UK). METHODS: A decision-analytic model was developed for the analysis. The primary endpoint was cost-effectiveness per patient achieving persistent control (continuing therapy 6 months after initial prescription). A large case-controlled study (N = 10,041 per arm) was used to estimate persistence. Resource uses included in the model were the cost of drugs, regular physician visits, incontinence pads, and the cost of urinary tract and skin infections. These were for controlled and uncontrolled OAB. Costs were estimated from the perspective of the health care systems of Germany and the UK. Sensitivity analyses included variation of the time horizon of the analysis, unit costs, and outcomes achieved. Cost-effectiveness figures were converted to EUR2004 at market rates. RESULTS: The expected number of patients achieving persistent control at 6 months was 44% with TER and 20% with OIR. The expected cost-effectiveness per patient during 6 months in Germany was €420.89 with TER, €224.54 with OIR, and €51.13 with no treatment; in the UK, respective costs were €439.20, €292.60, and €23.30. The incremental cost-effectiveness per patient achieving persistent control for TER compared with no treatment was €951.70 in the UK and €846.13 in Germany, and compared with OIR, it was €608.28 in the UK and €814.71 in Germany. The model was most sensitive to changes in the time horizon considered and dose of drugs required. CONCLUSION: More than twice as many patients achieved persistent control with TER than with OIR. This persistence resulted in superior cost-effectiveness for TER compared to OIR in both the UK and Germany.

PUK2

COST-EFFECTIVENESS ANALYSIS OF EXTENDED-RELEASE TOLTERODINE VERSUS IMMEDIATE-RELEASE TOLTERODINE IN THE MANAGEMENT OF OVERACTIVE BLADDER IN SPAIN

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OBJECTIVES: Overactive bladder (OAB) is a common, chronic and distressing medical condition that affects individuals of all ages, and is associated with an increased risk of comorbidities. Tolterodine is an antimuscarinic drug indicated for the treatment of OAB, and is available as both an immediate-release (IR), twice-daily, tablet formulation of tolterodine and extended-release (ER), once-daily, capsule formulation. The aim of this analysis is to carry out an economic evaluation of IR versus ER tolterodine in the management of OAB in Spain. METHODS: A cost-effectiveness analysis was performed by building a decision analytic model. Efficacy, tolerability and healthcare resource utilization data were obtained from a double-blind, multicenter, randomized trial showing that ER formulation was more effective and better tolerated than the IR formulation. Only direct medical costs-drug acquisition, physician visits, diagnostic evaluations, incontinence pads and treatment of skin complications and urinary tract infection-were taken into account. Drug costs were obtained from official sources, and the rest of data were taken from a national health care cost database. The perspective selected for this analysis was primary care assistance and the time horizon was 12 weeks, the treatment period in the referenced clinical trial. RESULTS: The percentage of patients treated with ER tolterodine had a greater control on OAB symptoms (71% vs 60%, p < 0.05) and a lower cost/effectiveness ratio (375 vs 414€ per patient with successful outcome) than patients treated with IR tolterodine. CONCLUSIONS: This model demonstrates that ER tolterodine is a more efficient therapeutic option than IR tolterodine despite of the difference in acquisition costs between the two formulations. Therefore, ER could be considered as the tolterodine formulation to be selected routinely in the management of OAB in Spain. Van Kerrebroeck et al. Urology 57: 414–421, 2001.

PUK4

PATIENT PERCEPTION OF OAB DRUG THERAPY SUCCESS IS ASSOCIATED WITH LESS HEALTHCARE RESOURCE USE

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OBJECTIVES: Overactive bladder (OAB) is a costly chronic health condition affecting women and men of all ages. This study assessed the relationship between patient perception of OAB drug therapy success, and associated resource use. METHODS: A descriptive, cross-sectional survey was conducted via the internet in January 2004 in individuals diagnosed with and using various therapies for OAB identified in the 2003 National Health and Wellness Survey. Health care resource use in the previous 6 months was compared between those who considered themselves
successfully treated and not successfully treated with prescription medication alone. Resource use included type and number of physician visits, diagnostic tests, and type and number of OAB complications, as well as monthly out-of-pocket expenses associated with OAB, such as over the counter medications, co-payments for prescription medications, incontinence pads, and laundry and dry cleaning. Statistical significance was evaluated at the α = 0.05 level. RESULTS: In total, 196 adults receiving drug therapy for their OAB (mean age 63.4 years, 76% female) responded to the survey, of whom 121 (62%) perceived themselves to be successfully treated. In general, respondents who considered their OAB condition successfully treated tended to consume significantly fewer resources than respondents who considered their OAB unsuccessfully treated, including: visits to a primary care physician (0.9 vs 1.4, p < 0.01); urine tests (0.2 vs 0.3, p = 0.05); and pads used during the day (0.9 vs 1.9, p < 0.01); and experienced fewer urinary tract infections (0.3 vs 0.9, p < 0.02). Median monthly out-of-pocket expenses for OAB were $18 for successfully treated versus $30 for unsuccessfully treated respondents (p < 0.05). CONCLUSIONS: Patients who consider themselves successfully treated with OAB medications consume fewer resources and incur fewer out-of-pocket expenses. OAB drug therapies that increase patient perception of treatment success could potentially lead to lower healthcare resource consumption.

ECONOMIC VALUATION OF THE EFFECTS OF DIETARY PROTEIN RESTRICTION ON THE PROGRESSION OF CHRONIC RENAL DISEASE

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OBJECTIVE: Reducing protein intake of patients with chronic renal disease (CRD) significantly reduces the number of patients entering end-stage renal disease (ESRD). We conducted an economic evaluation of dietary protein restriction on the progression of CRD. METHODS: We conducted a Cost-Benefit Analysis in the perspective of the Italian National Health Service (NHS) based on data from Modification in Diet in Renal Disease (MDRD) Study. In the MDRD, patients with a glomerular filtration rates (GFR) of 25–55 ml/min/1.73m2 were randomly assigned to usual protein (1.3 g/Kg/die) or low protein (0.58 g/Kg/die) diet groups. It is expected that a patient would receive a protein-restricted diet when his/her GFR falls under 25 ml/min/1.73 m2 and to start dialysis when his/her GFR is 5 ml/min/1.73 m2. We quantified cost of diet with a protein product (2000 Kcal/die, 40 g/die of protein) and the assistance of a nutritionist (once every two months) and cost of dialysis using NHS tariffs. Data were applied to patients with poor EPO response (mean age 63.4 years, 76% female) and a mean Hb level of 11.5 g/dl. Costs and complications of EPO therapy and TR were analyzed for the cohort of patients with poor EPO response. RESULTS: Applying the mean decline of GFR obtained by the MDRD Study we estimated patients receiving a low protein intake to start dialysis in 7 years. Patients with a usual protein diet would start dialysis in 5 years. We estimated a cost of $6882€ for 7 years low protein diet with a protein product. This treatment would delay by 2 years dialysis initiation with an estimated saving to the NHS of $43,268€. We obtained a benefit of $36,386 per patient. These results were robust in one-way sensitivity analyses. CONCLUSION: Using MDRD Study data, a low protein controlled diet, in nephropatic patients, could delay the degeneration of nephropathy extending the renal survival. This involves significant economic benefits.

COST OF RENAL TRANSPLANTATION IN BELGIUM

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OBJECTIVE: The objective of this project was to analyse the 1-year direct medical costs of kidney transplantation performed in Belgium. METHODS: Data from the last 150 patients who received a kidney transplantation at UCL Cliniques Universitaires St. Luc (Belgium) and for which a follow-up of 1-year was available were analysed. All patients were adults at the age of the transplantation and treated with cyclosporine. Patients files were retrospectively analysed. Key parameters, such as: primary hospitalisation for transplantation; immunosuppressive drug use; patient survival; graft survival; acute rejection; CMV infection; other adverse events and serious complications; treatment of adverse events; treatment of complications; repeat hospitalization; and follow-up hospital consultations were recorded. Total length of stay in the hospital was also recorded. For each patient, information up to 1-year post renal transplantation (or until death if death occurred within 1-year of transplantation) was collected. Costing information was obtained from anonymous hospital bills which provided amounts paid by the health care payer and patient. Three perspectives were considered in this study, i.e. the health care payer (INAMI/RIZIV), the patient, and the societal perspectives. RESULTS: For the whole population (n = 150), the mean direct medical costs from the societal perspective, health care payer’s perspective, and patient’s perspective amounted to $40,574€, $38,566€ (of which $28,844€ for hospitalisation only), and $2,008€ respectively. During this one year period, patients were hospitalised for 29 days on average. CONCLUSIONS: One year direct medical costs of kidney transplantation are substantial. In Belgium, most of the direct medical costs are borne by the health care payer, and the main cost driver are hospital costs.

WHEN SHOULD ERYTHROPOIETIN (EPO) BE REPLACED BY PACKED RED BLOOD CELL TRANSFUSION (TR) IN HEMODIALYSIS (HD) PATIENTS?

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OBJECTIVE: This analysis characterizes patients in need of high EPO doses at still low Hb levels of below 10 g/dl (poor EPO response), Cost-effectiveness of TR in such cohort is assessed. METHODS: A database (>9000 pat.) was stratified by EPO dosis at still low Hb levels of below 10 g/dl (poor EPO response). Costs and complications of EPO therapy and TR were analyzed for the cohort of patients with poor EPO response. RESULTS: Patients (n = 233) with poor EPO response (18,730 U/week) showed a mean Hb level of 9.0 g/dl and a higher prevalence of cerebrovascular, liver, and valvular heart disease and fewer days of hospital free survival time of 223 days compared to 273 days in the comparative arm. The yearly costs of EPO therapy (15,660€) outweigh the costs of transfusion therapy (5,250€) assuming 50 blood units per year. CONCLUSION: Given the relatively sick population with poor EPO response, the risks associated with TR such as infections and iron overload is outweighed. Since mortality (historical group) and QoL (SF-36) data are available for these groups, the cost-effectiveness (cost per QALY) will be calculated.