counted at 5% per year. Deterministic and probabilistic sensitivity analyses (PSA) were performed to test the model robustness. **RESULTS:** Using clinical results of patients previously treated with a calcium-based binder, for the ITT population, the ICERs were $24,724/QALY, $15,053/LYS and $6,700/additional success (i.e., SP goal achievement), respectively. For patients who completed the randomized controlled trial, the ICERs of LC compared with SH were $15,285/QALY, $9,337/LYS and $8,265/additional success respectively. The PSAs indicated a 61.9% and 85.8% probability of LC being cost-effective at the $50,000/QALY threshold, for the ITT population and completer populations, respectively. Sensitivity analyses support the robustness of the model results. **CONCLUSIONS:** LC is a cost-effective strategy compared to SH in ESRD patients previously treated with calcium-based binders.

PUK21

LONG-TERM COST-EFFECTIVENESS OF SIROLIMUS BASED REGIMEN COMPARED WITH CALCINEURIN INHIBITOR BASED REGIMENS IN LOWER IMMUNOLOGICAL RISK RENAL TRANSPLANT RECIPIENTS IN KOREA

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OBJECTIVES: The calcineurin inhibitor (CNI) based regimens have improved short-term patient and graft survival. However, the nephrotoxicity of CNI has limited the long-term improvement of outcomes. Recently, sirolimus, a novel class of immunosuppressant, got an approval in Korea. In this report, the cost-effectiveness of sirolimus based regimen compared with CNI based regimens was evaluated especially in the lower immunological risk renal transplant patients under Korea health care system. **METHODS:** A Markov model was developed to simulate costs and outcomes of a renal transplant recipient for 20 years with 5% discount rate in the societal perspective. Health states were defined as patient with graft survival, patient with graft failure, patient with regraft survival, patient with regraft failure and patient death. Quality adjusted life-years (QALYs) were taken as effectiveness parameter. Efficacy data were obtained from systematic review of immunosuppressive regimens in lower immunological risk renal transplant recipients. And the additional benefits of mTOR inhibitor (including sirolimus), reduced nephrotoxicity and lower relative risk to the incidence of malignancy, were reflected in the model. Utility weights were obtained from published literature. Costs were calculated by the Korean public institutional data and clinical expert opinions. Sensitivity analyses were performed on crucial parameters. **RESULTS:** Sirolimus based regimen costs KRW 130,067,696 for the 8.94QALYs for 20 years treatment duration, whereas KRW 140,185,240 for 8.67 QALYs for tacrolimus based regimen, and KRW 131,136,664 for 8.56 QALYs for cyclosporine based regimen. Sirolimus based regimen was shown to be dominant over the others, as it was more efficacious in QALYs and less costly. The sensitivity analysis showed that the results were quite robust across most parameters. **CONCLUSIONS:** Sirolimus based regimen is expected to be superior in the clinical effectiveness and cost-saving in lower risk renal transplant recipients compared with the most frequently prescribed CNI regimens in Korea.

PUK22

HEALTH ECONOMIC ASPECTS OF USING SERUM CYSTATIN C FOR EARLY DETECTION OF CHRONIC KIDNEY DISEASE IN TYPE 2 DIABETICS IN GERMANY

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OBJECTIVES: Diabetic nephropathy is a serious and common complication in diabetic patients; however the onset and the course can be favourably influenced by appropriate therapy when detected early. Current recommendations include testing of creatinine based estimation of glomerular filtration rate (eGFR) and for microalbuminuria. Due to substantial limitations of creatinine, cystatin C (cysC) has been proposed as alternative marker for early detection of (chronic kidney disease) CKD. **METHODS:** We developed a Cost-Utility Model to simulate the long-term consequences and disease progression for diabetic patients using serum cysC instead of Creatinine for monitoring of kidney function. Markov modelling techniques were used to estimate incidence of complications and disease progression, and Monte Carlo simulation accounted for uncertainty. The model includes 11 health states to describe the disease progression and occurrence of adverse events. Probabilities were derived from clinical and epidemiological studies. The cohort definition was adapted from the UKPDS study. Direct medical costs from published sources were used and expressed in 2009 Euro from the payer's perspective. QALYs and total costs were projected over a life-time horizon and discounted at 5% p.a. **RESULTS:** Early detection of CKD with cysC leads to lifetime costs of €52,950 and 14.19 QALYs (€3,732 per QALY). Detection with Creatinine amounts to €64,912 and 12.82 QALYs (€5,063 per QALY). Cost saving amounts to €11,962 per patient and a QALY gain of 1.37; these arise due to slower disease progression and reduced complications. The cumulative incidence of complications was estimated to be lower for cysC than Creatinine (−15%). Early detection with cysC leads to a decreased number of patient-years (14%-points) spent in ESRD, due to a later onset. Probabilistic sensitivity analyses demonstrated the robustness of the model. **CONCLUSIONS:** The economic benefit of using cysC is substantial, due to reduction in complications and disease progression as well as lower long-term costs.

PUK23

ECONOMIC EVALUATION OF DIFFERENT TREATMENT MODALITIES IN ACUTE KIDNEY INJURY

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OBJECTIVES: Major controversy exists regarding the optimal treatment strategy in Acute Kidney Injury (AKI). The purpose of this study was to assess the incremental cost-effectiveness of continuous (CRRT) versus intermittent renal replacement therapy (IRRT) and conservative (CONS) AKI treatment in Belgium. **METHODS:** An area under the curve model was used, whereby patients are simulated using time-to-event data (survival analysis), combined with daily direct medical costs. Data were derived from the multi-centre SHARF4 study in which the three treatment modalities for AKI were compared. a time horizon of 2 years, starting from the admission to the hospital, was considered. Utility data were obtained from SF-36 assessment at 2 years and from literature data on in-hospital utility. **RESULTS:** Analyses indicated that mortality rates, cost and length of stay differed significantly between treatment mode during hospitalization. The mortality rate and the cost per day during the post-discharge follow-up period showed no significant difference between the treatment modes. Utility values, which improved gradually after admission to the hospital, revealed no significant differences between the three treatment strategies. Conservative treatment was associated with a 2-year cost of €34,090 and 0.49 QALYs. The CRRT was the most expensive therapy with a cost of €51,664 leading to 0.52 QALYs. The cost and QALYs associated with IRRT were €43,711 and 0.46. The ICER of CRRT versus IRRT was €131,604/QALY, while the ICER of CRRT versus CONS amounted to €651,318/QALY. Additionally the conservative treatment dominated IRRT. Sensitivity analysis—tornado diagram—confirmed the robustness of the results. **CONCLUSIONS:** This study has indicated that the most expensive treatment (CRRT) associated with an incremental cost of approximately €7952 generates only a minor increase in QALYs of 0.06 compared to IRRT. Additionally the results revealed that IRRT was dominated by CONS. From a health economic perspective conservative therapy seems to be the preferred treatment strategy.

PUK24

A COST-UTILITY ANALYSIS OF CINACALCET IN SECONDARY HYPERPARATHYROIDISM (SHPT) IN FIVE EUROPEAN COUNTRIES

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OBJECTIVES: A probabilistic patient-level Markov model was developed to simulate lifetime clinical and economic outcomes of the cinacalcet treatment in secondary hyperparathyroidism (SHPT) patients. We present the adaptation of this model to five European countries: Italy, Spain, Portugal, Czech Republic and Switzerland. **METHODS:** In the simulation the treatment with cinacalcet influences the trend in time of individual parathyroid hormone (PTH), serum calcium (Ca) and phosphorous (P) levels, based on the OPTIMA study. Published correlations between these levels, mortality and morbidity (CV events, fractures, and parathyroidectomies) were incorporated as well as local epidemiologic and cost data for dialysis, drugs and events management. Simulation horizon was patient lifetime; standard treatment (vitamin D sterols and phosphate binders) and cinacalcet plus standard treatment were compared. The effectiveness was measured as life expectancy (LE) and quality-adjusted life expectancy (QALE). Health Utility Indexes derived from literature and took into account dialysis, CV events and fractures. **RESULTS:** The simulated mean LE extension was 1.20 life-years (LY) in Italy, 1.1 LY in Spain, 1.18 LY in Portugal, 1.10 LY in Czech Republic and 1.40 LY in Switzerland. QALE increase was 0.89, 0.82, 0.89, 0.80 and 1.01 quality-adjusted life-years (QALY) in the same countries, respectively. The lifetime average cost increase, calculated not taking into account the cost for dialysis, was €28,161 in Italy, €23,878 in Spain, €27,932 in Portugal, CZK 836,914 (corresponding to €32,751) in Czech Republic and CHF 48,908 (€34,630) in Switzerland. The incremental cost-effectiveness ratio (ICER) was €23,473/LY and €31,616/QALY in Italy, €21,789/LY and €29,270/QALY in Spain, €23,680/LY and €31,249/QALY in Portugal, CZK 759,600/LY (approx. €29,726/LY) and CZK 1,042,643/QALY (approx. €40,802/QALY) in Czech Republic and CHF 34,858/LY (approx. €24,682/LY) and CHF 48,310/QALY (approx. €34,207/QALY) in Switzerland. **CONCLUSIONS:** Cinacalcet treatment could be considered a cost-effective treatment of SHPT in all the countries analyzed. Results seem more homogeneous in the three southern countries.

PUK25

USING GENETIC POLYMORPHISM AS A STRATEGY TO ESTIMATE THE POTENTIAL COST-EFFECTIVENESS OF PHARMACOLOGICAL CCR5 BLOCKADE IN DIALYSIS PATIENTS

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OBJECTIVES: Pharmacological interventions that are of benefit in non-dialysis populations have thus far been disappointing in dialysis patients. Since clinical trials are expensive and time-consuming, adjunct strategies are needed to support decision