OBJECTIVES: Monitoring of Neoral by 2-hour post-dose cyclosporine (CsA) levels (C2) is an accurate measure of CsA absorption efficiency and exposure. It is superior to trough (C0) monitoring for prediction of rejection risk and for targeting optimal CsA doses. Our goal was to assess potential economic benefits of C2 monitoring by the use of an economic model.

METHODS: Parameter estimates for key clinical events were derived from two cohorts containing 296 patients for C2 monitoring and 204 for C0 monitoring. An economic model was developed to calculate treatment costs according to different clinical outcomes. This multiple regression model is based on resource utilization records of kidney transplanted patients at Medizinische Hochschule Hannover. RESULTS: The incidence of clinically confirmed acute rejection (CAR) at 3 months post-transplant was 28.2% for patients monitored by C0 and 15.3% for C2. Delayed graft function (DGF) and graft failure occurred in 32.4% and 4.4% of the C0 population and 36.5% and 4.9% of the C2 population, respectively. These events resulted in a highly significant increment on 3-months treatment costs, i.e. €5424 (DGF), €6362 (CAR) and €14,117 (graft failure) compared to problem-free patients. Average direct three-months treatment costs were €22,583 for C0 and €20,650 for C2 cohorts. CONCLUSION: Use of C2 monitoring produces not only clinically important benefits but also provides an estimated saving of €1933 for the first 3 months after transplantation. Therefore, C2 promises to be a superior patient management strategy over C0 monitoring. The model developed allows a preliminary assessment of the short-term economic impact of C2 monitoring.

EVALUATION OF THE COST UTILITY OF SIROLIMUS VERSUS TACROLIMUS FOR IMMUNOSUPPRESSION FOR RENAL TRANSPLANTATION IN THE UNITED KINGDOM
Currie CJ1, Dixon S2, Conway P3, McEwan P4
1Cardiff Research Consortium, Cardiff, Wales, UK; 2Sheffield University, Sheffield, South Yorkshire, UK; 3Wyeth UK, Maidenhead, UK; 4Cardiff University, Cardiff, Wales, UK

OBJECTIVES: Immunosuppressive therapy is required to prevent graft rejection. Older medicines such as tacrolimus are paradoxically toxic to the kidney, whereas newer therapies such as sirolimus (Rapamune) are not. The purpose of this study was to evaluate the relative cost-utility of sirolimus versus tacrolimus in the UK. METHODS: A stochastic simulation model was constructed using clinical trial and real-life data comparing the two therapy paths and the immediate and 6-month clinical outcome. Costs were summed for events and various maintenance therapies. Utility was differentially accredited depending upon survival using the alternative renal replacement therapies. Outcome was predicted using post-transplant creatinine levels up to 3-years. Extensive statistical economic analysis and sensitivity analysis was undertaken. RESULTS: Extensive validation demonstrated that the simulation was very reliable. Over the 10-year horizon, sirolimus gained 0.58 yrs (discounted) of functioning graft over tacrolimus, resulting in an incremental cost per year of functioning graft that was dominant (ICER was calculated at €39,576). Over a 20-year time horizon cost effectiveness of sirolimus over tacrolimus further improved with an average discounted gain in years of a functioning graft of 1.5 yrs, resulting in an incremental cost-utility that was dominant (ICUR ≤€46,695). The number of haemodialysis events was 48,243 on sirolimus versus 127,829 on tacrolimus and peritoneal dialysis events 40,872 versus 105,249, respectively. Sirolimus remained dominant over tacrolimus under all scenarios. This finding was robust using statistical economic analysis and sensitivity analysis. CONCLUSIONS: Sirolimus was far more cost-effective than tacrolimus and was economically “dominant”. The magnitude of this difference indicates that this finding is likely to be geographically generalisable.

A HEALTH ECONOMIC EVALUATION OF 6 MONTHS ALFUZOSIN TREATMENT IN THE MANAGEMENT OF ACUTE URINARY RETENTION
Lamotte M1, Cleemput I, Annemans L
HEDM, Meise, Belgium

OBJECTIVES: An important complication of Benign Prostate Hyperplasia is Acute Urinary Retention (AUR). This condition needs acute catheterisation and is a predisposing factor for surgery. Subsequent removal of the catheter is only possible in a minority of patients. Moreover, after removing the catheter the long-term prostatectomy rate is considerable. Alfuzein increases the success rate of catheter removal, and may decrease the need for future surgery. This study assessed the cost-consequences of treating patients with AUR with alfuzein, watchful waiting or immediate prostatectomy from the perspective of the National Health Service (NHS) in the UK. METHODS: Starting from the treatment path and the immediate 6-month clinical outcome of the trial programme “ALFAUR”, a medical decision model to compare the cost-consequences of watchful waiting, immediate prostatectomy and alfuzein treatment was built in Excel MS 2000. The time horizon of the model was 6 months. Cost data were obtained from the NHS and resource use data gathered alongside the clinical trial. A Monte Carlo analysis, allowing variability in all uncertain parameters of the model, was performed to calculate the uncertainty surrounding the results. The unit cost of alfuzein was €0.79. Patients were continued on alfuzein for 6 months if the catheter was removed successfully. RESULTS: Treating patients with alfuzein during initial hospitalisation for AUR and during the 6 months of follow-up after successful catheter removal generates a cost-saving of €330 (CONF INT) relative to placebo and €892 (CONF INT) relative to immediate prostatectomy. Both savings are statistically significant. Alfuzein treatment was associated with a lower rate of prostatectomy after discharge with a successful catheter removal. CONCLUSIONS: Treating all patients hospitalised with AUR with alfuzein decreases the need for surgery and leads to important savings for the public health care payer. Future studies should explore the QoL outcomes of the different strategies.

COST-CONSEQUENCES OF TREATING WOMEN WITH STRESS URINARY INCONTINENCE WITH DULOXETINE FROM THE PERSPECTIVE OF THE STATUTORY HEALTH INSURANCE IN GERMANY
Papanicolaou S1, Andlin-Sobocki P2, Thurhoff J3
1Eli Lilly and Company Ltd, Windlesham, Surrey, UK; 2Stockholm Health Economics AB, Stockholm, Sweden; 3Johannes Gutenberg University Mainz, Mainz, Germany; 4University of Hannover, Hannover, Germany; 5Lilly Deutschland GmbH, Bad Homburg, Germany

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