

making in prioritization of tracks for drug development. Genetic association studies may provide such a strategy when a genotype is associated with a well-defined molecular and functional phenotype. Previously an association with better survival was found in incident dialysis patients with systemic inflammation and a deletion variant of the CC-chemokine receptor 5 (CCR5Δ32). Thus, we hypothesized that pharmacological CCR5 blockade could protect against inflammation associated mortality and estimated if such a treatment would be cost-effective. **METHODS:** Screen-and-treat strategy was modelled in which patients were screened for the CCR5Δ32 polymorphism and patients with the wild-type genotype and high inflammation status were treated with CCR5 antagonists, a decision-analytic Markov model was used. Costs, utilities and clinical data on the association between CCR5 polymorphisms and mortality were all gathered from a single prospectively followed dialysis cohort (NECOSAD, n = 413). Univariate and probabilistic sensitivity analyses were performed. **RESULTS:** Pharmacological CCR5 blockade in patients with CCR5 wild-type and high inflammation status decreased mortality (RR = 0.61) and improved the probability of renal transplantation (RR = 2.41). The cost-effectiveness of the screen-and-treat strategy was €18,557 per life-year gained and €21,896 per quality-adjusted life-year (QALY) gained. The main drivers of the cost-effectiveness were the costs of pharmacological CCR5 blockade and the reduction in relative risk of mortality. Threshold analyses were performed for these two parameters. **CONCLUSIONS:** Pharmacological blockade of the CCR5 receptor in inflamed dialysis patients can be incorporated in a potential cost-effective genetic screen-and-treat program. This study illustrates the potential of genetic association studies in drug-development programs, as a new source of Mendelian randomized evidence from an observational setting.

PUK26

THE INFLUENCE OF FUTURE UNRELATED COSTS ON COST-EFFECTIVENESS ESTIMATES: TREATMENT OF HYPERPHOSPHATEMIA WITH LANTHANUM CARBONATE IN PRE-DIALYSIS PATIENTS WITH CHRONIC KIDNEY DISEASE

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OBJECTIVES: A long-standing controversy in health-economics is whether future unrelated costs should be included in cost-effectiveness analyses. This discussion is relevant in Chronic Kidney Disease (CKD) for treatments that delay progression towards dialysis and prolong survival. In this study, we determined the influence of future unrelated costs on the cost-effectiveness of the non-calcium based phosphate binder lanthanum carbonate (LC) when used as second-line treatment for hyperphosphatemia in predialysis patients. **METHODS:** Time-dependent Markov models were constructed; cohorts of 1000 patients were followed lifelong. Patients not reaching target serum phosphate (SP) levels on first-line calcium based phosphate binders (CB) were treated with LC. This strategy was compared with continued CB treatment. Patient-level data were pooled from two clinical trials, one in predialysis and one in dialysis. Reductions in SP levels delayed progression towards dialysis and prolonged survival. **RESULTS:** For the predialysis cohort, 544 did not achieve target SP levels (<4.6 mg/dl) on CB treatment, and 230 were eligible for LC treatment. Of these, 43 (18.8%) now responded to an 8 week trial of LC. Compared with continued CB treatment, 150 life-years and 101 QALYs were gained with LC. Considerable future unrelated costs were accrued due to prolonged survival while on dialysis. Including these unrelated costs, the cost-effectiveness of second-line LC treatment was £17,150/QALY. Excluding future unrelated costs, net health care cost-savings were estimated due to delayed progression towards dialysis. The net monetary benefit of LC treatment rose from £1302 to £4558 upon exclusion of future unrelated costs. **CONCLUSIONS:** Second-line treatment of hyperphosphatemia with LC in predialysis CKD patients is cost-effective irrespective of whether future unrelated costs are included. However, this analysis demonstrates the substantial impact of these costs on the cost-effectiveness ratio. We recommend cost-effectiveness guidelines used for reimbursement purposes should specify exclusion of future unrelated costs in the base case, with inclusion in sensitivity analysis.

PUK27

TIME SAVINGS WITH Q4W (ONCE-MONTHLY) C.E.R.A.: A TIME AND MOTION STUDY CONDUCTED IN HEMODIALYSIS CENTRES IN FIVE EUROPEAN COUNTRIES

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BACKGROUND: Governments across Europe are increasingly focused on controlling rising health care costs. Within this context, a major challenge for hemodialysis centres is to maximise efficiencies while maintaining high standards of care. **OBJECTIVES:** The aim of this study was to document health care personnel time for anaemia management in maintenance therapy for both shorter-acting erythropoiesis-stimulating agents (ESA) and a continuous erythropoiesis receptor activator (C.E.R.A.) once monthly (Q4W), and model time savings following the introduction of Q4W C.E.R.A. in five European countries. **METHODS:** A multinational, multicentre time and motion study has been conducted in 16 centres across Germany, France, Italy, Poland and Spain. The time spent on frequent anaemia management-related tasks (preparation, distribution, injection, record-keeping) was recorded in each centre by trained observers. Time/pt/session was used to calculate time/pt/year, time/centre/year and for modelling potential time savings with a 100% uptake of C.E.R.A. **RESULTS:** Numbers of

ESA injections/pt/year, weighted by type of ESA, frequency and route of administration, ranged from 53–148. The mean uptake of C.E.R.A. Q4W across 16 centres was 29% (7–56%). The mean annual reduction in the number of ESA administrations following conversion to C.E.R.A. was 76 (41–136). Estimated observed time/pt/year ranged from 38–310 min for ESA and 6–68 min for C.E.R.A. Assuming a 100% uptake of Q4W C.E.R.A. maintenance therapy, annual time savings/centre for frequent anaemia management tasks would be 84% (79–91%) in Germany, 78% (74–86%) in France, 88% (87–88%) in Italy, 85% (78–88%) in Poland and 77% (69–84%) in Spain. **CONCLUSIONS:** Substantial annual time savings on frequent anaemia management-related tasks were consistently found in hemodialysis centres across five European countries with a 100% uptake of Q4W C.E.R.A. maintenance therapy. This provides the opportunity to re-focus health care resources, at a critical time point in the dialysis procedure, on other important CKD care tasks in order to improve overall pt care.

PUK28

THE ECONOMIC BURDEN OF POST-TRANSPLANT EVENTS IN RENAL TRANSPLANT PATIENTS (PORTRAIT STUDY) IN A SINGLE UK CENTRE

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OBJECTIVES: There is a paucity of information available regarding the prevalence of post-transplant events and resource utilization associated with such events in renal transplant patients in real-life treatment settings. The PORTRAIT study aims to describe the health care resources used and to estimate the cost of managing post-transplant patients using observational data from transplant databases and physician questionnaires from transplant centres across Europe. This abstract describes the preliminary results from a single UK centre. **METHODS:** A pilot retrospective observational study was undertaken in which resource usage over a three year period, calculated from Healthcare Resource Groups (HRGs), was employed to derive costs, with results stratified by glomerular filtration rate (GFR) status at one year post transplant. Comparison of costs was undertaken using the non-parametric Mann-Whitney test. **RESULTS:** There were 879 renal transplant patients who had a recorded GFR measurement at one year post transplant. Overall 130 (14.8%) had a GFR of <30 mL/min/1.73 m²; 535 (60.1%) had a GFR between >30 and ≤60 mL/min/1.73 m² and 214 (24.3%) had a GFR > 60 mL/min/1.73 m². Overall three-year HRG derived costs were significantly lower in the >60 mL/min/1.73 m² group at £497 (SD = £111) compared to both the 30–60 and <30 mL/min/1.73 m², at £1,323 (SD = £1245, p = 0.025) and £1448 (SD = 1726, p = 0.01) respectively. **CONCLUSIONS:** This study provides evidence that post-transplant resource usage in a real-life treatment setting (assessed using HRG tariffs) is approximately three times higher in those patients with lower post transplant GFR. Therefore management strategies that promote renal function post transplant are likely to provide important resource savings. An ongoing database and physician questionnaire study has been implemented to confirm these observations using a bottom-up costing approach.

URINARY/KIDNEY DISORDERS – Patient-Reported Outcomes Studies

PUK29

CHARACTERIZING THE RELATIONSHIP BETWEEN HEALTH UTILITY IN KIDNEY TRANSPLANT RECIPIENTS IN UK AND US WITH DIFFERENT LEVELS OF KIDNEY FUNCTION

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OBJECTIVES: Little data is available describing the relationship between quality of life and levels of kidney function in renal transplant patients. We sought to assess the relationship between health utility and renal impairment in US and UK kidney transplant (KTX) recipients. **METHODS:** Data was obtained from KTX patients enrolled at the kidney transplant facilities of the Renal Unit at the Cardiff and Wales NHS Trust in Cardiff, UK (n = 209) and Saint Louis University Hospital, St. Louis, MO (n = 233). General linear models were used to estimate adjusted EQ-5D means across CKD stages (K/DOQI classification). Partial Spearman's correlation was used to evaluate trend across CKD classes. We adjusted all models for age, gender, time since transplant and diagnosis of diabetes. We adjusted for center effect by including the variable indicating the center of enrollment and the appropriate interaction term in the model. **RESULTS:** Mean age of KTX recipients was 52.7 and 49.1 years and mean time since transplant was 5.6 and 3.3 years in the UK and US cohorts respectively. After adjustment, EQ-5D scores resulted as follows in UK and US samples respectively: CKD 1–2, 0.74 and 0.87; CKD 3, 0.69 and 0.88, CKD 4, 0.61 and 0.82; CKD 5, 0.39 and 0.79. The trend across CKD classes was statistically significant in both samples (UK: $\rho = -0.24$, $P < 0.01$; US: $\rho = -0.19$, $p = 0.03$). Center effect was statistically significant and mainly explained by inclusion of recipients with failed graft on dialysis in the UK sample. **CONCLUSIONS:** This study demonstrates a significant and independent relationship between levels of post transplant renal impairment and health utility. Management strategies that maximize post transplant renal function will have important implications for patients' quality of life.