PD23 Economic Evaluation Of Prophylactic Immunoglobulin Versus Prophylactic Antibiotics In Hematological Malignancies: Results From The RATIONAL Feasibility Trial

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Introduction: Patients with hematological malignancies are at high risk of infections due to both the disease and the associated treatments. The use of immunoglobulin (Ig) to prevent infections is increasing in this population, but its cost effectiveness is unknown. This trial-based economic evaluation aimed to compare the cost effectiveness of prophylactic Ig with prophylactic antibiotics in patients with hematological malignancies.
Methods: The economic evaluation used individual patient data from the RATIONAL feasibility trial, which randomly assigned 63 adults with chronic lymphocytic leukemia, multiple myeloma, or lymphoma to prophylactic Ig or prophylactic antibiotics. The following two analyses were conducted to estimate the cost effectiveness of the two treatments over the 12-month trial period from the perspective of the Australian health system:
(i) a cost-utility analysis (CUA) to assess the incremental cost per quality-adjusted life-year (QALY) gained using data collected with the EuroQol 5D-5L questionnaire; and
(ii) a cost-effectiveness analysis (CEA) to assess the incremental cost per serious infection prevented (grade ≥3) and per infection prevented (any grade).
Results: The total cost per patient was significantly higher in the Ig arm than in the antibiotic arm (difference AUD29,140 [USD19,000]). There were non-significant differences in health outcomes between the treatment arms: patients treated with Ig had fewer QALYs (difference −0.072) and serious infections (difference −0.26) than those given antibiotics, but more overall infections (difference 0.76). The incremental cost-effectiveness from the CUA indicated that Ig was more costly than antibiotics and associated with fewer QALYs. In the CEA, Ig costed an additional AUD111,262 (USD73,000) per serious infection prevented, but it was more costly than antibiotics and associated with more infections when all infections were included.
Conclusions: These results indicate that, on average, Ig prophylactic treatment may not be cost effective compared with prophylactic antibiotics for the group of patients with hematological malignancies recruited to the RATIONAL feasibility trial. Further research is needed to confirm these findings in a larger population and over the longer term.

PD24 Innovation In Chronic Obstructive Pulmonary Disease Care: Cost Effectiveness Of A New Self-Management Maintenance Program In The United Kingdom

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Introduction: Innovation is needed for the growing number of patients with chronic obstructive pulmonary disease (COPD). Pulmonary rehabilitation (PR) is effective in improving exercise tolerance and quality of life, but these benefits do not appear to be sustained. This highlights the need for cost effective methods to maintain benefits on completion of therapy. The findings of a large trial from the UK are reported.
Methods: A two-center randomized controlled trial of patients discharged from PR compared the costs and benefits of PR maintenance with standard care. National Health Service (NHS) resource use, personal expenditure, and societal costs were recorded over one year, and bottom-up costing was undertaken for the PR maintenance program. Changes in health-related quality of life were recorded using the EQ-5D-5L, and differences were compared with the level identified as significant for COPD. A cost utility analysis was undertaken from an NHS perspective; uncertainties in cost and outcome data were incorporated into a sensitivity analysis. Cost-effectiveness ratios and cost-effectiveness acceptability curves (CEACs) were computed.
Results: The study included 116 patients who had finished PR within the last four weeks. The economic analysis showed that mean healthcare costs per patient for PR maintenance were approximately GBP139.72 (EUR165.57) lower than for usual care. The observed 0.118 advantage in mean quality-adjusted life-years (QALYs) ($p<0.05$) was above the threshold (0.051) for COPD significance. CEACs indicated there was a 97 percent chance of achieving GBP20,000 (EUR23,699.80) per QALY (NICE acceptance level ≤GBP30,000 (EUR35,549.70). Patient and societal costs increased this percentage. It was estimated that if patients with COPD completed a maintenance program following PR, the NHS could save up to GBP28.6 million (EUR33.89 million).
Conclusions: Our findings confirm that a structured PR maintenance program is highly cost effective in extending the benefits of short-term PR. The trial, undertaken during COVID, also signals the potential for emerging digital innovations to provide future transformative change in delivering self-management programs to sustain health and reduce NHS costs for people living with chronic conditions.

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