118. Cost-effectiveness in diagnosis, therapy and care

P1182

Asthma burden in the hospital setting in Australia

L. Watson[1], F. Turk[2], K.F. Rabe[3]. [1]*Director of Epidemiology, Phimap, Manchester, United Kingdom;* [2]*Manager, Health Outcomes, Novartis, Basel, Switzerland;* [3]*Department of Pulmonology, Leiden University Medical Center, Leiden, Netherlands*

Introduction: This study was designed to report factors associated with asthma hospital admission, such as patient characteristics, type of admission and subsequent outcome i.e. discharge or death, for the years 2000 to 2005. These data are used for health economic models regarding asthma burden in the hospital setting in Australia.

Methods: Data was obtained from the Australian Centre for Asthma Monitoring using their amalgamated dataset from all states. Admissions under ICD-10 codes J45 "Asthma" plus all sub-codes, and J46 "acute severe asthma" were included. Codes for associated co-morbidity at time of admission were identified, as well as month of death, age, gender and length and type of stay. Confidence intervals for death rate assumed a binomial distribution due to rarity of event.

Results: The mortality rate post asthma admission for all codes combined was 143 deaths per 100 000 admissions (95% CI 127 – 160). Males over 45 years had the highest mortality rate (448/100 000), twice as many as younger male adults (216/100 000) and four times as many younger female adults (99/100 000). There was no seasonal pattern of death as observed elsewhere. In five years observation there were 152 758 emergency asthma admissions versus 10 718 elective admissions.

Conclusion: The study demonstrates that mortality post an asthma admission in Australia varies by age and gender. Emergency admissions dominate asthma care in the hospital setting which implies poor asthma control with subsequent economic burden.

P1183

Clinic-economical analysis of the six-part asthma management program (GINA) efficiency in polyclinic

A. Petukhova, E. Beltyukov. *Pulmonology, Central City Hospital No.6, Yekaterinburg, Russian Federation; Therapy, Ural State Medical Academy, Yekaterinburg, Russian Federation*

The purpose of the research: to study the clinic-economical efficiency of the six-part asthma management program (SPAMP) in the district polyclinic of the Central City Hospital No.6 in Yekaterinburg.

Materials and methods: The research was carried out in 2004–2005. The direct cost for the bronchial asthma (BA) treatment during a year before and a year after the SPAMP introduction was analyzed. The group under study (n = 70; women – 41, men – 29, mean age – 52.6 year.) was formed by random selection of 164 asthmatics who was registered in 2005.

Results: The costs on dispensary drug therapy (43%) and hospital treatment (31%) have prevailed among the direct costs before the SPAMP introduction. The treatment of severe BA needed the maximum costs (1,070$ for one asthmatic in a year), the treatment of mild intermittent bronchial asthma needed minimal costs (37$ for one asthmatic in a year). The costs of dispensary drug therapy increased to 72% and the costs of hospital treatment decreased 7% after a year of the SPAMP introduction. The decrease of the costs of mild intermittent bronchial asthma treatment (2.3 times) was observed comparing the severe BA (1.2 times).

Conclusions: The direct costs of the BA treatment were 462$ for one asthmatic in a year. The SPAMP introduction brought to the reduction of direct costs 1.4 times (334$ for one asthmatics in a year) at the expense of the decrease the costs of hospitalization (6.5 times) and calls the emergency service (5.7 times). The denominated decrease of costs for mild intermittent bronchial asthma, by comparison the severe BA, was noted.

P1184

Cost-effectiveness of eNO measurements in chronic asthma management

M. Bischof[1], J. Leuppi[2]. [1]*Basel Institute for Clinical Epidemiology, University Hospital Basel, Basel, Switzerland;* [2]*Pneumology, University Hospital Basel, Basel, Switzerland*

Introduction: The measurement of exhaled nitric oxide (eNO) was shown to be effective for adjusting the dose of inhaled-corticostroid treatment in asthmatic patients. Patients in which treatment is guided by eNO measurements require a smaller maintenance dose of inhaled corticosteroids than patients on a dose-adjustment strategy (conventional management; CM).

Aims and Objectives: Within this study we addressed the cost-effectiveness of eNO measurements from a Swiss health care perspective. The outcome was assessed in terms of qualtiy adjusted life years (QALYs).

Methods: We developed a decision analytic Markov model with 4 health states. In the model patients with well controlled asthma are at risk of moving to the health state subobtimal control or exacerbation (primary care or hospital care). Transition probabilities and quality of life (QoL) values were derived from the literature. Cost data was obtained from the Swiss sources. Probabilistic sensitivity analysis was performed on cost and QoL parameters.

Results: Total treatment costs are CHF 1293 in the eNO group and CHF 1488 in the CM group. Outcomes are 0.907 QALYs for eNO and 0.903 QALYs for CM. Incremental costs are CHF –195 (95% CI –385 to –7.6), incremental effects are 0.004 QALYs (95% CI –0.047 to 0.046). At a threshold level of CHF 80,000, eNO has a probability of 83% of being cost-effective. Results were robust to changes in key parameters.

Conclusion: Guiding asthma control by eNO measurement is dominating conventional management (i.e. less costly and more effective). Routine use of eNO measurement might result in cost savings while at the same time providing a better outcome for patients.

P1185

Budesonide/formoterol provides better efficacy at a lower or similar cost as compared to high-dose salmeterol/fluticasone treatment

J. Bousquet[1], M. Miravitlles[2], A. Wirén[3]. [1]*Hôpital Arnaud de Villeneuve, CHU Montpellier, Montpellier, France;* [2]*Pneumology Department, Hospital Clinic UVIR, Barcelona, Spain;* [3]*AstraZeneca R&D, AstraZeneca, Lund, Sweden*

Background: Budesonide/formoterol (B/F, Symbicort® Maintenance And Reliever Therapy [Symbicort SMART®]) is a simplified asthma management approach that addresses breakthrough symptoms and improves asthma control compared to fixed-dose ICS/LABA regimens. However, the cost effectiveness of this approach relative to high-dose salmeterol/fluticasone (S/F, Seretide™) + SABA has not been evaluated.

Methods: 2309 patients with symptomatic asthma (age ⩾12 years; FEV_1 ⩾50% predicted) were randomised in this double-blind study to receive B/F (2 x 160/4.5 µg/inhalation bid plus B/F as needed) or S/F (1 x 50/500 µg/inhalation bid) plus terbutaline (0.4 mg/inhalation as needed) for 6 months. The number of severe exacerbations was used as the pre-defined variable for cost-effectiveness evaluation. Canadian, French and Spanish unit costs (2006) were applied to patients' resource use and cost for sick leave added to direct healthcare costs (HC) for derivation of total costs (TC).

Results: The rate of exacerbations declined by 21% with B/F vs. S/F treatment (25 vs. 31 events/100 patients/year, $p < 0.05$), with a similar day-to-day asthma control in both groups. Sick-leave costs were lower with B/F vs. S/F for all three countries ($p < 0.05$). For both treatments, the major cost component was drug cost. B/F reduced HC by CAN$21,770 and €2330 and TC by CAN$26,240 and €5900, per 100 patients, in the Canadian and Spanish analyses respectively (all p values <0.0.05). French HC and TC seemed similar for both treatments with no significant difference between groups.

Conclusion: SMART is a more effective asthma treatment, at lower or similar costs, than high-dose S/F.

P1186

Analysis of the patient-reported outcome (PRO) endpoints found in labeling claims of asthma drugs in Europe

M. Caron[1], M.-P. Emery[1], P. Marquis[2], E. Piault[2]. [1]*Information Resources Centre, Mapi Research Trust, Lyon, France;* [2]*Boston Office, Mapi Values, Boston, United States*

Objective: To compare the PRO endpoints used in the approval of asthma drugs which led to a PRO labeling claim, with those recommended by the EMEA note for guidance on the clinical investigation of medicinal products in the treatment of asthma (CPMP/EWP/2922/01).

Methods: PROLabels is a unique tool which collects information on the medicinal products for which the FDA and/or the EMEA have granted a PRO labeling claim. Using this online database we searched the products indicated for asthma and approved by the European Commission through the centralized procedure. The endpoints used to assess treatment efficacy were compared to those recommended by the CPMP guidance for the treatment of asthma.

Results: One product approved on 25 October 2005 filled our inclusion criteria: Xolair (omalizumab). The clinical endpoints used for evaluating the efficacy of Xolair included as primary endpoint the rate of asthma exacerbations and as a co-primary or secondary endpoint, the subjective outcome measure of quality of life in accordance with the CPMP guidance. Other endpoints which were used in this study but are not reported in the Summary of Product Characteristics (SPC) are the use of asthma rescue medication, asthma symptoms and lung function, which are also recommended by the guidance.

Conclusions: In the evaluation of medicinal products for asthma, the drug product approved through the centralized procedure respects the EMEA guidance concerning the choice of study endpoints. The PROLabels database has proven its usefulness in retrieving the PRO endpoints used in clinical studies for products approval in a specific indication and in comparison to the guidance.

Abstract printing supported by Nonin Medical, Inc. Visit Nonin Medical, Inc. at stand B04:31