PSU4

VENTRAL, UMBILICAL, AND INGUINAL HERNIA: REVIEW OF THE CURRENT LITERATURE

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OBJECTIVES: To provide a comprehensive overview of existing literature on inguinal, ventral, and umbilical hernias in the UK, US, France, Germany, and Italy in four independent areas: 1) epidemiology; 2) treatment guidelines and management; 3) health-related quality of life; and 4) economic burden. **METHODS:** Systematic reviews and meta-analyses were reviewed ahead of any single studies. Studies included in the systematic reviews were not reviewed independently. Where systematic reviews were not available, the next highest level of evidence was identified. **RESULTS:** Seven studies examining incidence of inguinal (5), ventral (2), and umbilical hernia (0); 17 studies of HRQL in inguinal hernia repair (none in ventral or umbilical hernia repair); 4 systematic reviews and 22 costing studies of inguinal hernia repair (4 ventral hernia costing studies; none for umbilical); and 10 published guidelines on inguinal hernia repair only (none for France, Italy, or Germany) were identified. No prevalence studies were found and incidence data was limited to hernia repair procedures and recurrences versus true incidence of hernia. Open mesh repair appears most common due to safety, ease of technique, low recurrence rates and cost although laparoscopic repair has potential benefits over open mesh. Hernia repair generally leads to improved HRQL regardless of surgical technique. Mixed evidence supports LH patients having better HRQL, post-operative pain outcomes, return to work and usual daily activities profile following inguinal hernia surgery than OH patients. The inclusion of indirect costs such as absenteeism and presenteeism can significantly reduce or eliminate cost differences between laparoscopic and open repair as noted in TEP procedures. **CONCLUSIONS:** Although hernia repair is a common procedure, its epidemiology, treatment guidelines and management recommendations are not well referenced in the literature. Evidence based decision-making would be improved through reporting of real world, observational, longitudinal hernia repair data.

POSTER SESSION III

ALLERGY-ASTHMA

PAA1

CLINICAL EFFECTIVENESS OF ADJUSTABLE DOSING SINGLE INHALER BUDESONIDE/FORMOTEROL FOR ASTHMA AND BUDGET IMPACT ANALYSIS

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OBJECTIVES: To compare budesonide/formoterol in single inhaler with budesonide + formoterol from separate inhalers and adjustable dosing of single inhaler budesonide/formoterol with fixed dosing in patients with moderate and severe persistent asthma. To assess national payers budget impact. **METHODS:** The clinical effectiveness analysis was performed according to Cochrane Collaboration Guidelines. Budget impact model consist of 3 refund settings scenarios for single inhaler, adjustable dosing budesonide/formoterol. **RESULTS:** Budesonide/formoterol in single inhaler vs budesonide + formoterol from separate inhalers Three RTC were included. No significant difference in quality of life and others parameters of disease symptoms control. Only dysphonia presence was statistically lower in single inhaler group (I 3 months follow-up), OR = 0.12 (0.02; 0.88). Fixed dosing versus adjustable dosing 7 RTC were included. No significant difference in quality of life and number of patients with at least one disease exacerbation (three months follow-up). Metaanalysis of trials with 5–6 months follow-up showed lower disease exacerbation risk with adjustable dosing, RR = 0.56 (0.40; 0.77). No significant difference in frequency of severe disease exacerbation, multiple exacerbation of disease, necessity of oral administration of corticosteroids and additional therapy. Lower risk of hospitalization/emergency treatment with adjustable dosing, RR = 0.65 (0.43; 0.98) was observed. Both treatments were well tolerated but the adverse event profile was statistically lower in adjustable dosing—less sever, asthma related adverse events, OR = 0.12 (0.02; 0.72) in three months follow-up was noticed. Budget impact model Single inhaler budesonide/formoterol refund consequences per year: 0.4 million sold drug units; 3248 avoided medical visits; 518 avoided hospital/emergency asthma exacerbations treatments; 27.7% reduction in drugs intake volumen; 11–32 millions PLN national insurer budget savings. **CONCLUSIONS:** Single inhaler budesonide/formoterol therapy, especially adjustable dosing, is a clinically effective and well-tolerated treatment for patients with asthma. Refund of this therapy may generate savings for national insurer budget.

PAA2

EFFECT OF SUBLINGUAL IMMUNOTHERAPY (SLIT) ON DIRECT MEDICAL COSTS FOR PATIENTS WITH ALLERGIC RHINITIS AND ASTHMA: RESULTS FROM THE SIMAP DATABASE STUDY

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OBJECTIVES: Efficacy of sublingual-immunotherapy (SLIT) has been assessed by several studies and confirmed by the WHO ARIA paper and Cochrane review. Effect of SLIT on consumption of medical resources is yet to be proven in a naturalistic environment. **METHODS:** A network of specialist allergy centres provided data on access to medical care for patients affected by allergic rhinitis (R) with or without asthma (A) enrolled in February 2004. Patients affected by grass pollen allergy, documented by allergen tests, were included in this analysis and split into SLIT patients and patients treated with symptomatic drugs (controls). Outcome measures included use of medications, SLIT, routine care visits, other specialist visits, hospital admissions and tests. Costs were assessed from the perspective of the Italian NHS; unit costs were obtained from published sources (national tariffs for visits and tests; market prices for drugs and immunotherapies). Average cost/patient for the first year after enrolment was produced. **RESULTS:** One-hundred and two patients were analyzed (SLIT/Controls 54/48; M/F 56/46; mean age 30 + 13 years; mean follow-up 376 + 29 days). Demographics were comparable in the two groups. Overall per patient yearly cost of treatment was higher in SLIT patients, in the whole sample (€311 vs. €180/patient), in the R (€288 vs. €116) and R + A (€362 vs. €230) subpopulations, with R + A patients generating more costs than R patients in both groups. Nevertheless considerable savings were obtained in the

cost of symptomatic drugs (–22% for R; –34% for R + A) in SLIT patients. **CONCLUSIONS:** Use of symptomatic drugs is an important indicator of effective allergy control: other studies have shown SLIT can reduce the use of drugs for asthma and rhinitis, but this is the first time this outcome is demonstrated in a routine care population, in the medical practice environment of an observational study, and yet at the first year of treatment.

PAA3

COST OF MANAGING ASTHMA EXACERBATIONS WITH STABLE DOSING OF SALMETEROL/FLUTICASONE COMBINED PRODUCT (SFC) COMPARED WITH ADJUSTABLE MAINTENANCE DOSING (AMD) OF FORMOTEROL/BUDESONIDE COMBINED PRODUCT (FBC) IN POLAND

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OBJECTIVES: Exacerbations—consequence of poor control of asthma—are the main component of high cost of this disease. The aim of the study was the cost comparison of managing asthma exacerbations with two types of treatment: stable dosing of SFC and AMD of FBC. **METHOD:** The analysis was performed from health-care payer perspective, based on Polish data on health-care resource utilisation and unit cost obtained from COAX study, estimating cost of asthma exacerbation managed in primary and secondary care in Poland. Data on incidence of asthma exacerbations in two types of treatment were derived from 1-year CONCEPT Trial—the only available double blind, double dummy, randomized study in adults with persistent asthma, comparing stable dosing SFC with AMD of FBC. **RESULTS:** Study population was 688 patients (344 in each treatment arm). 11.3% patients on stable dosing of SFC experienced an asthma exacerbation compared with 17.7% patients receiving AMD of FBC. There were 48% fewer exacerbations in the stable dosing SFC group than in AMD with FBC (50 vs. 96 exacerbations respectively). The incidence of asthma exacerbations requiring oral steroids or an emergency room visit/hospitalization was 47% lower for the stable dosing SFC group than for AMD with FBC (adjusted annual mean rate, 0.18 vs 0.33; P = 0.008). The total annual direct health care costs of managing exacerbations for the stable dosing SFC group was PLN 19.833 compared with PLN 34.936 for the AMD with FBC group. Difference in annual costs of managing exacerbations was PLN 15.103 (EUR 1 = PLN 4,02; year 2005). **CONCLUSION:** Stable dose treatment with salmeterol/fluticasone combined product of adult patients with persistent asthma is more effective than the adjustable maintenance dosing with formoterol/budesonide combined product and reduces the cost of exacerbations management by 43%.

PAA4

PHARMACOECONOMIC ANALYSIS OF USE OF A SIMBICORT TURBUHALER AND SERETIDE MULTIDISK OF ASTHMA PATIENTS

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OBJECTIVES: To perform cost–effectiveness analysis of combos budesonide/formoterol in different dosing regimes and fixed dosing salmoterol/fluticasone in bronchial asthma (BA) treatment in Russia. **METHODS:** Modeling study based on the results of international randomized double blind study of 6 countries outpatient practice published by R. Albers, et al.* Three group patients with BA were assessed: group 1 (n = 219)—adjustable maintenance dosing budesonide/formoterol 160/4,5 micrograms, 1st month—2 inhalations twice a day and next 6 month—on average 3,4 inhalations a day; group 2 (n = 215)—fixed dosing the same product, 2 inhalations twice a day and group 3 (n = 224)—fixed dosing salmeterol/fluticasone 50/250 micrograms, 1 inhalation twice a day. Direct medical costs (DC) were taken into account from the health care system point of view and consisted of expenditures on products usage and treatment of complications. Effectiveness (E) was the average percent of pts with a week of well-controlled asthma based on clinical study results. There was a significant positive dynamics in all groups accordingly: E1 = 65%, E2 = 50% and E3 = 55%. **RESULTS**: Direct cost (DC) for each group were: DC1 = 364 EUR, DC2 = 417 EUR and DC3 = 420 EUR respectively. Cost—effectiveness ratio (CER): CER1 = 5.58, CER2 = 8.34 and CER3 = 7.63 EUR per percent of pts with a week of well-controlled asthma respectively as well. **CONCLUSION:** adjustable maintenance dosing budesonide/formoterol is the best choose to treat pts with BA based on cost-effectiveness analysis results.
*-R. Albers, et al. Current medical research and opinion. 2004:20:225–40.

PAA5

ECONOMIC EVALUATION OF A NEW AIRWAY INFLAMMATION MONITOR IN THE DIAGNOSIS AND MANAGEMENT OF ASTHMA IN GERMANY

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OBJECTIVES: Fractional exhaled nitric oxide (FENO) is a measure for the airway inflammation underlying asthma, which can be used for both diagnosis and monitoring the effect of anti-inflammatory treatment. The objective of this study was to assess the cost-effectiveness of NIOX MINO®, a portable non-invasive FENO monitor, in asthma diagnosis and management. **METHODS:** Two decision trees were constructed that capture the different alternatives and consequences in asthma diagnosis and management. Reflecting available clinical data on diagnostic precision, NIOX MINO was compared against standard diagnostics, including spirometry, reversibility testing, bronchoprovocation and sputum eosinophil count. The impact of asthma management with NIOX MINO on inhaled steroid use, exacerbations and hospitalisations was compared against standard guidelines (spirometry) over a 1-year timeframe. A German payer perspective was chosen, focusing on direct medical costs taken from published sources in 2006. Effectiveness was measured in quality-adjusted life-years (QALYs). **RESULTS:** Asthma diagnosis based on NIOX MINO results in a cost of €12 per patient, including the cost of false diagnoses, compared to €20 for standard diagnostics. If NIOX MINO is conducted in addition to standard tests, the incremental cost would be up to €7 per patient. Asthma management with NIOX MINO instead of standard guidelines is a dominant strategy. In mild to severe patients, it results in cost-savings of €140 per patient and year and 0.06 QALYs gained. In a more severe population, management with NIOX MINO would save costs of €260 per patient and lead to 0.004 QALYs gained. **CONCLUSIONS:** Asthma diagnosis based on NIOX MINO alone is less costly and more accurate than standard diagnostic methods, while the addition of NIOX MINO to spirometry increases costs marginally. The use of NIOX MINO in treatment decisions is less costly than asthma management based on standard guidelines, while providing the same health benefits.