

insertion. Mean follow up was 12 months and mean survival 27.2 months. These results compare very favourably with a historical comparator group of the last 10 patients who received MS between 2009 and 2012 who required an average of 15.3 bronchoscopies after MS insertion and who had an overall mean drop in FEV1 of 0.59 L. SEMS have been used for a longer period of time, so follow up in this group was 30.5 months and mean survival 34.7 months (Table 1).

**Conclusion** Our data add to the limited literature that BS can be a safe alternative to MS for airway stenosis, and may also represent a useful treatment for anastomotic bronchomalacia.

## Improving patient therapies in COPD

### P248 CURRENT COPD DISEASE BURDEN ASSOCIATED WITH MAINTENANCE MONOTHERAPY IN THE UK

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**Introduction and objectives** National Institute for Health and Care Excellence (NICE) recommends long-acting bronchodilators, including  $\beta_2$ -agonists (LABAs) or muscarinic antagonists (LAMAs) as first line maintenance treatment for patients with COPD. The aim of this descriptive study was to characterise a cohort of COPD patients who were on maintenance bronchodilator monotherapy for at least six months to establish their disease burden, measured by healthcare utilisation.

**Methods** Data were extracted from the UK Clinical Practice Research Datalink (CPRD) which also linked to Hospital Episode Statistics (HES). The monotherapy period spanned the first prescription of a LABA or LAMA until the end of the study period (31/12/2013) or until step-up to dual/triple therapy; for example the addition of another long acting bronchodilator, an ICS or ICS/LABA. A minimum of four consecutive prescriptions and six months on continuous monotherapy were required for study entry. Patients <50 years old at time of first COPD diagnosis or with another significant respiratory disease prior to the start of monotherapy were excluded. Disease burden was evaluated by measuring patients' rate of consultations with a healthcare professional (HCP), COPD-related exacerbations, hospitalisations and referrals to key specialities.

**Results** A cohort of 8,811 COPD patients (94% GOLD stage A or B) on maintenance monotherapy was identified between 2002 and 2013; 45% (N=3,947) of these patients were still on monotherapy by the end of the study period. The median time from first COPD diagnosis to first monotherapy prescription was 56 days while the median time on maintenance bronchodilator monotherapy was 748 days. The median number of prescriptions during this period was 14. Patients had a median of 19 HCP consultations and a mean of 0.1 (95% CI 0.1, 0.2, N=8,811) COPD exacerbations and 0.02 (95% CI 0.01, 0.02, N=4,848) COPD hospitalisations per year.

**Conclusion** In summary, COPD patients who are on maintenance bronchodilator monotherapy for at least six months appear to remain on this therapy for over two years despite having a disease burden that requires healthcare resources, particularly HCP consultations, at a cost to the NHS.

### P249 EFFECT SIZE OF OPEN-LABEL VERSUS DOUBLE-BLIND ADMINISTRATION OF TIOTROPIUM IN TRIALS INVESTIGATING HEALTH-RELATED QUALITY OF LIFE IN COPD

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**Introduction** Effects of interventions on patient-reported outcomes may be subjective and modulated by patients' expectations regarding treatment efficacy. The 'gold standard' for minimising such biases are double-blind randomised controlled trials. We analysed the effects of tiotropium on health-related quality of life in chronic obstructive pulmonary disease (COPD) in placebo-controlled trials and assessed whether trial design (double-blind versus open-label) is a relevant modifier of the effects of tiotropium.

**Methods** Trials of  $\geq 6$  months' duration investigating the effect of tiotropium versus placebo on health-related quality of life in COPD (assessed using St George's Respiratory Questionnaire [SGRQ]) were identified from the Boehringer Ingelheim clinical trial database and by a systematic literature search in MEDLINE, with a cut-off date of 30 November 2011. As a clinical end point, the mean difference between treatment groups in SGRQ total score was assessed. Trials were grouped according to double-blind or open-label design. We performed a network meta-analysis including standard methodology to test for interaction to evaluate whether trial design is a potential modifier of effect size or its direction.

**Results** We identified 12 trials in which tiotropium had been administered double-blind and three trials with open-label application. The overall effect for mean difference versus placebo in SGRQ total score was -2.98 units (95% confidence interval [CI]: -3.49, -2.47). For the double-blind trial subgroup, mean difference versus placebo was -3.20 (95% CI: -3.75, -2.65) compared to -1.67 (95% CI: -3.02, -0.32) for open-label trials. The p-value for interaction between subgroup and effect on SGRQ total score was 0.04.

**Conclusions** In patients with COPD, trial design (double-blind versus open-label) was a statistically significant modifier of the effect of inhaled tiotropium on health-related quality of life. The modification was quantitative, resulting in a substantial underestimation of the effect of tiotropium on SGRQ total score when the administration had been open-label compared to the 'gold standard' double-blind. A subjective end point such as quality of life is particularly susceptible to bias due to patients' expectations towards the efficacy of an intervention. Therefore, the validity of studies using non-blinded designs to investigate such end points must be questioned.

### P250 EFFECTS OF 12 WEEKS OF ONCE-DAILY TIOTROPIUM AND OLODATEROL FIXED-DOSE COMBINATION ON EXERCISE ENDURANCE IN PATIENTS WITH COPD

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