Late-breaking abstract: HR-lowering efficacy and respiratory safety of ivabradine in patients with obstructive airway disease

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Aim: There is substantial evidence that heart rate (HR) is a powerful predictor of mortality in both normal individuals and in patients with cardiovascular disease. β-blockers confirmed importance of lowering elevated HR for patients prognosis. However, due to risk of bronchoconstriction, are contraindicated in obstructive airway diseases. Ivabradine, a new I_{f} inhibitor which acts specifically on the sino-atrial node, is a pure HR-lowering agent. The objective of this study was to assess efficacy and respiratory safety of ivabradine in patients with asthma and chronic obstructive pulmonary disease (COPD).

Methods: In this double blind, placebo-controlled, crossover study, 20 asthmatics and 20 COPD patients received ivabradine 7.5 mg b.i.d and placebo b.i.d for 5 days in crossover manner. HR in ECG holter monitoring, peak expiratory flow rate (PEFR), symptoms, rescue medication consumption and adverse events (AEs) were evaluated.

Results: Ivabradine produced significantly lower mean HR than placebo in all patients: asthma 67±4±8 vs 82±5±11, 19 (P<0,0001;6) and COPD 69±7±8 vs 81±0±8±75 (P<0,000470). No significant difference was found between ivabradine and placebo in morning and evening PEFR, PEF diurnal variability, symptom scores and rescue medication usage (all P<0,05). The incidence of AEs was low and generally similar in both treatments, except for visual symptoms during ivabradine treatment reported by 5% of patients.

Conclusions: Our study demonstrates that selective HR reduction with ivabradine is effective and safe in patients with asthma and COPD. Ivabradine offers an interesting alternative in patients with respiratory disease and contraindications to β-blockers.
Results: We identified 26,516 individuals with COPD (59% female, mean age 61±13 years) of whom 80% contributed adherence data. Adherence rates (mMPR±SD; number contributing) were 0.62±0.34, n=11,317 for anticholinergics (ACh), 0.61±0.32, n=7,018 for inhaled corticosteroids (ICS), and 0.66±0.28, n=5,336 for long-acting beta-agonists (LABA). The relative risk for subsequent AE based on a 0.20 difference in mMPR at the start of follow-up was 0.86 (95% CI 0.84-0.88) for ICS, 0.91 (0.84, 1.00) for LABA, and 0.89 (0.84, 0.93) for ACh.

Conclusions: Better adherence to any of the major classes of inhaled controller therapeutics reduced the risk of subsequent AE-COPD.

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Provision of nonpharmacological treatment options for COPD patients in 13 European countries: Results from the European COPD audit
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Background: Evidence from the literature suggests that nonpharmacological treatment for COPD patients improve the outcome of this disease. To explore the provision of non invasive ventilation (NIV), early supported discharge programs, and nonpharmacologic treatment options, data from the European COPD audit study was evaluated in 258 hospitals from 13 European countries.

Study design: In an observational study, all participating hospitals collected data on the organisation of care for COPD admissions. Preliminary results of 258 (132 general/153 teaching/university) hospitals out of 450 participating centres of the ongoing study will be presented.

Results: Although the majority of centers offer noninvasive (ICU and/or HDU)-High dependency care units (ICU) for COPD patients, the capacity for eligible patients is only close to 60%. In addition, supported discharge as well as pulmonary rehabilitation programs are provided in less than 50% of cases.

Conclusions: Contrary to international recommendations, participating European centers in the COPD audit lack sufficient availability for non invasive ventilation; in addition, neither rehabilitation, nor early supported discharge programs are sufficiently available. University hospitals are not superior to general hospitals.

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Integrated care intervention prevents hospitalisations for exacerbations and reduces the disease costs in COPD patients
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Introduction: Efficacy of interventions aimed at preventing hospitalisations due to exacerbations in clinically stable COPD patients is controversial. Objectives: To evaluate usefulness of integrated care intervention (ICI) on hospital admission for exacerbations and disease costs in COPD patients.

Methods: This prospective study was carried out in 208 COPD patients recruited by general practitioners between January 2009 and December 2009 in Massa-Carrara sanitary district.

The interventions included individually tailored care plan following GOLD guideline lines shared among the chest physician, nurse team and general practitioner, educational program on self-management of the disease, treatment supervision during scheduled visits, home visits by specialised nurses.

Results: 105 patients completed 12 months of follow-up, stratified at stage 1 (n=11), stage 2 (n=47), stage 3 (n=34), stage 4 (n=13) using the GOLD classification. Twelve months of ICI decreased the mean number of hospitalisations (0.54±1.1 versus 0.82±1.1; p<0.05), reduced the percentage of hospitalised patients (27% versus 48% respectively) compared to the previous year. Gold 3 and 4 stages showed the highest reduction in hospitalisation rate. Drug-acquisition costs significantly increased (average difference in means +256 €) while the mean total disease cost per patients decreased (-201 €) after ICI.

Conclusions: The study demonstrates that a standardised ICI based on share-care intervention between primary care team and hospital team effectively prevents hospitalisations for exacerbations and decreases the total disease cost in COPD patients.

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Establishment of an integrated clinical network and comprehensive data warehouse for the conduct of comparative effectiveness research in COPD
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Background: Chronic obstructive pulmonary disease (COPD) affects many millions worldwide and is increasing in incidence, morbidity, and mortality. Efficacy trials can guide COPD care, but an infrastructure for comparative effectiveness research (CER) across diverse settings is needed to more fully evaluate commonly used therapies in clinical practice.

Methods: We created an inter-disciplinary and multi-institutional network for CER named COPD Outcomes-Based Network for Clinical Effectiveness and Research Translation (CONCERT). We developed a platform for comparative interoperable clinical data upload and synthesis across diverse outpatient and hospital practice settings to create a comprehensive COPD data warehouse (COPD DataHub) and have begun populating it thru inclusion pathways designed to maximize identification of COPD patients from 2006 through 2008.

Results: The COPD DataHub was designed to be flexible to incorporate data from seven varied health care settings including university-affiliated medical centers, a community medical center, a health maintenance organization and a government-operated veteran medical center. It includes a total of 146,240 unique patients, 58.3% female at non-veteran sites, whites 68.4%, blacks 14.3% and other races 17.3%, average patient age 61.8 years (S.D. 13.5).

Conclusions: We demonstrated the feasibility of developing a rich CER data repository by linking COPD patients across the country. CONCERT has successfully created a multi-institutional platform to pursue observational CER studies and identify patients with COPD for enrollment into prospective pragmatic clinical trials.

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Lack of oximeters in primary care risks increasing the mortality from COPD
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The ERS and ATS (2005), GOLD (2010), NICE (2010) guidelines for COPD recommend long term oxygen therapy (LTOT) in hypoxic patients. LTOT improves the mortality of these patients. NICE recommends that patients with oxygen saturations which are ≤92% on breathing air should be assessed for LTOT. In order to do this these patients must be identified with pulse oximetry.

Methds and methods: This study was undertaken in 2010 examines the availability of pulse oximetry in GP surgeries and the views of GPs to pulse oximetry or post questionnaire in all 67 practices who serve this hospital.

Results: 60 practices (88.2%) responded to the questionnaire. Of these 40 (66%) had ≥ 1 pulse oximeters. 24 (40%) had only one oximeter, usually shared between doctors and nurses. 20 (33%) had no oximeter. 64 (23%) stated they would like an oximeter whilst 4 (6.6%) thought an oximeter was not necessary. The main reason given for not having an oximeter was financial.

Conclusions: 33% of GP practices do not have a pulse oximeter. 40% have only one oximeter, which was usually shared between doctors and nurses. Lack of oximeters could lead to referral to secondary care just to have pulse oximetry measured. Lack of finance was the major reason given for not having an oximeter.
but oximeters are now cheap and one referral into secondary care is approximately equivalent to the cost of an oximeter. This study suggests that hypoxia patients with COPD will not be identified early and therefore not treated with LTOT. This will mean that their life expectancy will be reduced. The identification of hypoxia patients in primary care must be urgently addressed by increasing the number of oximeters.