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STATEMENT OF INTEREST

None declared.

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Concomitant use of β-blockers and β_2-agonists

To the Editors:

Historically, the use of β-adrenergic blockers in patients with airways disease has been discouraged. However, recent meta-analyses suggest that cardioselective β-blockers are safe in people with mild-to-moderate airways disease [1, 2]. We have identified patients with chest disease on β-agonist bronchodilators, who were simultaneously taking β-blocker drugs. We have also looked at the reasons for co-prescription of these ''competing'' drugs and whether cardioselective β-blockers were being used.

Over 2 yrs (2005–2006) in a district general hospital, C.D. Shee prospectively recorded the names of patients he saw who were concomitantly taking β-blockers and β_2-agonists. Patients were encountered in outpatient clinics, as hospital in-patients and as referrals (consults). The data were analysed retrospectively. A total of 34 patients were identified and hospital notes were found for 27 (18 males, mean (range) age 69 (54–88) yrs). It seemed that the co-prescription of these drugs was often inadvertent. In no instance did the hospital notes nor the general practitioners' letter specifically mention why two competing drug classes were being used simultaneously. It was not always clear whether it was a general practitioner (family doctor) or a hospital doctor who had originally instigated specific drugs.

Of the patients using β-agonists, 19 had diagnoses of chronic obstructive airways disease and eight had asthma. A total of 21 (78%) subjects were taking salbutamol *via* a metered-dose inhaler, four (15%) were taking nebulised salbutamol and two (7%) were taking a long-acting bronchodilator. Cardioselective β-blockers were being taken by 18 (67%) subjects (atenolol n=14, bisoprolol n=3, metoprolol n=1) and nine (33%) subjects were taking nonselective β-blockers (carvedilol n=3, sotalol n=2, propanolol n=2, oxprenolol n=1, carvedilol with sotalol n=1). Eight (30%) subjects were taking β-blockers primarily for heart failure, eight (30%) for isolated hypertension and five (19%) for hypertension with ischaemic heart disease. Other indications were for angina (two subjects), atrial fibrillation (one subject), migraine (one subject), hyperthyroidism (one subject) and unclear (one subject).

In a separate study, on a 1-day in-patient survey (November 21, 2006), drug charts were analysed for 198 patients identified on eight medical wards. Of these, 32 (16%) subjects were taking

β-agonists and 27 (14%) subjects were taking β-blockers. Only one (0.5%) patient was taking both.

β_1-receptors are much more prevalent in the heart, while β_2-receptors are prevalent in bronchial smooth muscle [3]. The original evidence of adverse effects of β-blockers on airways was based on early case reports of acute bronchospasm associated with high doses of nonselective β-blockers [1]. Since then, cardioselective β-blockers have been developed that have >20 times the affinity for β_1- than β_2-receptors and are therefore less likely to cause bronchospasm. It is valid to use cardioselective β-blockers in low-risk respiratory patients with high-risk cardiac conditions, but this should be done with close monitoring [4]. As cardioselective β-blockers are increasingly prescribed, it is not surprising that 67% of patients in our survey were using them. However, 33% of patients were taking nonselective β-blockers, which have not been shown to be safe in airways disease. Eight (30%) of the patients in our survey were on a β-blocker solely for hypertension, even though β-blockers are no longer regarded as first-line treatment for hypertension [5].

Concomitant use of β-agonist and β-blocker drugs does not appear to be common. The in-patient point prevalence was 0.5% and over a 2-yr period, in a variety of settings, we encountered only 34 examples (27 analysed). Our survey suggests that coprescription of these drugs may often be inadvertent and that in some patients with airways disease, β-blockers could be stopped or a cardioselective β_1-antagonist substituted.

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STATEMENT OF INTEREST

None declared.

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Meta-analysis may not be practicable for guiding antibiotic therapy

To the Editors:

We read with interest a meta-analysis by SIEMPOS *et al.* [1] that showed that macrolides, quinolones and amoxicillin/clavulanate might be considered equivalent for treating acute bacterial exacerbation of chronic bronchitis. Despite meticulous adherence to the methodology of meta-analysis and a comprehensive discussion of the major limitations of their study, the investigators might have used an inappropriate tool for addressing a common clinical problem.

Although meta-analysis has been placed at the pinnacle of the hierarchy of clinical evidence [2], caution is required for clinical scenarios in which targeted pathogens and their drug sensitivity patterns may vary with geographical location and time. One such scenario is the antibiotic treatment of lower respiratory tract infection, including pneumonia and chronic bronchitis, for which the clinical decision is often empirical and heavily dependent upon timely and relevant epidemiological data, as well as the patient's clinical characteristics [3, 4]. Fundamental differences in these major factors that existed between the study populations from different locations and periods would have rendered it meaningless to find summary estimates with meta-analysis.

The only valid finding may be their conclusion about the significantly higher association between adverse effects and amoxicillin/clavulanate in comparison with quinolones, since adverse events may be subject to less variation due to time, place and person. That notwithstanding, the choice of antibiotic for empirical treatment must also take into account the inherent diagnostic uncertainty and long-term implications for resistance profiles. In this regard, fluoroquinones have been incriminated in causing a delay in the diagnosis of tuberculosis [5]. Thus, fluoroquinolones have been reserved for use only in certain settings in some tuberculosis-endemic populations.

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STATEMENT OF INTEREST

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