

RESEARCH LETTERS

Oral corticosteroids for asthma or COPD were dispensed to 2.6% of Norwegians aged 7 years or over in 2004-5

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Dear Sirs,

Prevalence figures for asthma and chronic obstructive pulmonary disease (COPD) vary considerably depending on the source of data used – population surveys,¹ spirometry findings,² medical records from primary care,³ or respiratory drug dispensing figures from pharmacies.^{4,5} To be registered as an asthma or COPD patient in such studies provides no information about the severity of the disease. However, the frequency of oral corticosteroid prescription in a defined population, over a period of time, can indicate the prevalence of moderate to severe exacerbations of asthma or COPD and the requirement for continuous systemic corticosteroid treatment due to severe disease.

We merged two different data sources: medical records information related to obstructive lung diseases in patients 7 years or over in eight Norwegian primary care centres (38,770 patients) in the Trøndelag counties, and data from the Norwegian Prescription Database on drugs dispensed in 2004-05. From the medical records we had information about diagnoses registered between 1995 and 2004, and the patients' ages in 2004.⁶ Combining these data was possible since, in Norway, prescription costs related to bronchodilators and anti-inflammatory drugs used for asthma and COPD have been reimbursed by state insurance. To obtain reimbursement, a certain regulatory paragraph had to be referred to in the prescriptions, and name and date of birth had to be registered. When oral corticosteroids were used for asthma and COPD, the same paragraph was referred to and registered at the pharmacies. The study was approved by

the regional committee for medical research ethics, the Data Inspectorate, and the Norwegian Directory of Health.

In 38,770 people aged 7 years or over in 2004, a diagnosis of asthma was recorded in the medical records between 1995 and 2004 in 7.8%, whereas COPD was recorded in 2.5%. Three thousand one-hundred-and-three patients (8%) collected medication for obstructive pulmonary diseases on reimbursed prescriptions in 2004-05 (see Table 1). Combined inhaled corticosteroid (ICS)/long-acting β_2 -agonist (LABA) inhalers were more often dispensed to patients with COPD (47%) than to patients with asthma (31%) ($p < 0.0001$). Oral corticosteroids (prednisolone tablets) were dispensed to 2.6% of the population, more frequently among those aged 40 years and over (see Table). 38% of COPD patients collected a prescription for prednisolone, compared to 15% with asthma ($p < 0.00010$).

A third of patients who collected medicine for obstructive lung diseases collected prescriptions for oral corticosteroids over a period of two years. The dispensing rate of 2.6% is probably a good measure for the prevalence of moderate to severe asthma and COPD in the population. Comparison with other countries could be useful. The huge consumption of ICS/LABA combination inhalers among patients with COPD is not supported by strong evidence,⁷ and this overuse was a prelude to restrictions in

Table 1. Frequency of dispensed prescriptions for asthma and COPD in 2004 - 2005 among women and men aged 40 years or over and in a total population of 38,770 aged 7 or over

	Women aged 40 years or more, n=10,404 (%)	Men aged 40 years or more, n=9,590 (%)	Both genders aged 7 years or more, n=38,770 (%)
Short-acting β_2 -agonists	6.9	4.8	5.7
Anticholinergics for inhalation	2.5	2.0	1.2
Long-acting inhaled β_2 -agonists (LABA)	1.5	1.0	0.9
Inhaled corticosteroids (ICS)	3.0	1.8	2.2
ICS/LABA combination inhaler	6.0	4.8	4.4
Leukotriene antagonist	0.7	0.4	0.6
Oral corticosteroids (prednisolone)	4.8	3.2	2.6
Any medication for asthma/COPD	10.1	7.4	8.0

reimbursement of such medicine to COPD patients introduced in Norway in 2006. Most recently, combined ICS/LABA inhalers are once again reimbursed for COPD in Norway, but only when the FEV₁ % predicted is < 60%.

Conflicts of interest

None.

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GPs' role in reducing the risk of bronchospasm in asthma patients undergoing general anaesthesia and/or intravascular administration of radiographic contrast media

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Dear Sirs,

Asthma is recognised as a highly prevalent health problem in the developed and developing world. Its inadequate control is the main reason for the increased risk of bronchospasm in children or adults undergoing surgical intervention under general anaesthesia (surgery

+ GA) or intravascular administration of radiographic contrast media (RCM) for diagnostic purposes.^{1,2} Severe perioperative bronchospasm has been reported in 0.17–4.2% of all GA procedures carried out in patients with asthma,³ and severe bronchospasm has been reported in 0.18–4% of procedures using RCM. Bronchospasm in asthma patients may lead to several peri- and/or post-operative and RCM-related complications (see Table 1). However, the international GINA Guidelines⁴ contain only a few sentences on the risk of surgery + GA for asthma patients, and there is no mention of the risk of intravascular RCM administration.

Although there is little if any literature on the relationship between the degree of asthma control and the risk of intra-operative/intra-RCM infusion bronchospasm, good clinical practice suggests that optimal control of asthma symptoms in 'real life' is an important prerequisite for safer surgery (either elective or

Table 1. Possible consequences of bronchospasm in asthma patients undergoing GA and / or administration of RCM

Surgery with GA		Use of RCM
Perioperative <ul style="list-style-type: none"> ● Hypoxemia ● Increase of airway resistance / alveolar hypoventilation ● Prolonged intubation ● Biotrauma from pulmonary extention 	Postoperative <ul style="list-style-type: none"> ● Mucus plugging and segmental atelectasis ● Wheezing ● Pneumonia ● Aspiration of biologic materials (*) ● Prolonged mechanical ventilation (*) ● Irreversible brain damage / exitus (**) 	<ul style="list-style-type: none"> ● Hypoexmia ● Increase of airway resistance ● Necessity of discontinuing the procedure ● Alteration of RCM diffusion from vascular / ventilatory alteration induced by hypoxemia related vasoconstriction.

(*) In older patients; (**) In the case of severe bronchospasm; GA = General anaesthesia; RCM = Radio contrast media