## Contents

**Editorial**

New GPIAG chair in Primary Care
Respiratory Medicine to be hosted at Aberdeen

*Dermot Ryan, David Price and Mark Levy*

**Original Research**

Underpresentation of shortness of breath in the general population: Results of the DIMCA programme

*Guido van den Boom, Prasanna Tirimanna, Ad Kaptein, Ilse Mesters, Cees van Herwaarden, Reinier Akkermans, Chris van Weel and Onno van Schayck*

A randomised trial of the initiation of asthma treatment

*Alyn Morice and Marion Taylor*

Preschool children with asthma: Do their GPs know?

*Marjolein Tasche, Hans Uijen, Ben Ponsioen, Lisette van Suijlekom-Smit, Johan de Jongste and Hans van der Wouden*

Does implementing COPD guidelines improve patient care and save money in practice?

*Rupert Jones and Shirley Copper*

**Letters**

*15*
New GPIAG chair in Primary Care Respiratory Medicine to be hosped at Aberdeen

Primary care has developed into a major clinical discipline. It is an effective and economical way of delivering healthcare. Primary care physicians treat both a wide array of disease and channel more difficult medical problems into the hospital. All medical schools in the UK now have departments of general practice or primary care.

Since its inception the General Practitioners in Asthma Group (GPIAG) has aimed to reverse the decline of respiratory care in the UK. A major step in achieving this aim has been realised by securing funding from a consortium of pharmaceutical companies to support a Chair in Primary Care Respiratory Medicine for a period of five years. We are delighted to announce that our interview panel (Dermot Ryan and David Price, for the GPIAG, and Robert McKinley and Douglas Fleming, independent interviewers) awarded this post to the Department of General Practice and Primary Care at Aberdeen University. The professorship will be advertised and an appointment made later this year.

The professorship will be a resource to develop pertinent, evidence-based solutions, to initiate epidemiological and clinical studies, to further develop research network, and to explore and develop the interface between primary and secondary care. The post will support the application of evidence-based medicine by those working in primary care. By establishing this new position GPIAG is providing an opportunity for primary care-led research and innovation.

Respiratory diseases are major reasons for consultation in primary care. The primary care team manages most patients with these problems exclusively. Guidelines for the management of asthma, COPD and emphysema have been produced, but only a few2,3 have input from primary care. Secondary care solutions are not always appropriate for primary care problems, one of the reasons for this new post.

The GPIAG Research Unit in Dundee continues to be responsible for important respiratory research3 (full bibliography on web page) and runs the journal web page (http://www.gpiag-asthma.org/asthma/gpiagweb.htm). Members actively participate in national and international respiratory conferences and many have contributed significantly to the medical literature in the last 20 years.4 The group has an extensive research network of more than 250 practitioners. Our journal, Asthma in General Practice, publishes work relevant to primary care respiratory disease, including abstracts of work presented at our Annual Scientific Meeting.

G. van den Boom, P.R.S. Timmanna, A.A. Kaptein, I Mesters, C.L.A. van Herwaarden, R.P. Akkermans, C. van Weel and C.P. van Schayck

Asthma in General Practice

Underpresentation of shortness of breath in the general population: Results of the results of GPs' initial stage of the detection phase. The programme consisted of detection and treatment phases. A random sample of unscheduled adult subjects from the general population (n=1155), aged between 25 and 70 years, were invited for screening, consisting of a standardised respiratory symptoms questionnaire and lung function measurement. Subjects with symptoms or objective signs of OAD or both, were invited to participate in the second stage of the detection phase: the monitoring. In this phase, lung function and symptoms were measured every three months for up to two years, during which patients were selected for the treatment phase.

As part of the screening, subjects were asked whether they had consulted their GP, because of having experienced shortness of breath during the preceding 12 months and, if so, whether they had consulted their GP or chest physician for this. Two random samples of those reporting shortness of breath were studied further: one (n=134) to assess an individual's ability to perceive shortness of breath, the other (n=130) to assess the role of psychological factors in relation to medical consultation.

Patient characteristics

The characteristics of patients who experienced shortness of breath during the year preceding the screening were compared with those who did not. Within the group reporting shortness of breath, the characteristics of those who did consult their GP were compared with those who did not.

Under presentation.

The results confirm that there is a significant level of under representation. A large proportion (74%) of the GP responses were from patients who did not consult their GP for this. Multivariate analysis showed that neither a person's perception of dyspnoea nor psychological factors could explain under presentation.

METHODS

Design

This study is part of the GPIAG programme, which aimed to assess the efficacy and cost-effectiveness of active detection and early treatment of OAD. The programme consisted of detection and treatment phases. A random sample of unscheduled adult subjects from the general population (n=1155), aged between 25 and 70 years, were invited for screening, consisting of a standardised respiratory symptoms questionnaire and lung function measurement. Subjects with symptoms or objective signs of OAD or both, were invited to participate in the second stage of the detection phase: the monitoring. In this phase, lung function and symptoms were measured every three months for up to two years, during which patients were selected for the treatment phase.

As part of the screening, subjects were asked whether they had consulted their GP, because of having experienced shortness of breath during the preceding 12 months and, if so, whether they had consulted their GP or chest physician for this. Two random samples of those reporting shortness of breath were studied further: one (n=134) to assess an individual's ability to perceive shortness of breath, the other (n=130) to assess the role of psychological factors in relation to medical consultation.

Patient characteristics

The characteristics of patients who experienced shortness of breath during the year preceding the screening were compared with those who did not. Within the group reporting shortness of breath, the characteristics of those who did consult their GP were compared with those who did not.
Perception and medical consultation

Perception of shortness of breath was assessed during a histamine provocation test.24 Patients were instructed to record their experienced level of shortness of breath 30 seconds after each dose of histamine and immediately before the FEV1 measurement. The extent of shortness of breath was rated on a 100-mm visual analogue scale (VAS). Specimens with shortness of breath had a smaller vital capacity and a higher degree of reversibility after inhalation of salbutamol. They had significantly more pack-years and were more often currently smokers (Table 1). Although they experienced shortness of breath at least once, only 93/285 (32.6%) had ever consulted a GP for this. Those who consulted their GP had a higher degree of reversibility and were fewer years younger, on average, than those who did not. But there were no significant differences in FEV1 expressed as a percentage of the predicted vital capacity or airway obstruction severity due to shortness of breath.

The development of guidelines for diagnosis and therapy of asthma are examples of efforts in this area. The following five validated questionnaires were used: The Dutch Personality Inventory, of which subscales Optimism and Stigma, were used for the assessment of psychological factors towards their illness.20 Two subscales Optimism and Stigma, and the Perceived Control Scale, which assesses perceived causes of respiratory symptoms, a percentage similar to that in the whole group. The results from the logistic regression model showed that a person’s perception was unlikely to be a significant factor in his decision to seek medical help. Perception, defined as the difference in Borg scores, was not statistically significantly different (p = 0.18). Subjects who had a difference in Borg scores greater than 0.09 between those who consulted a GP and those who did not (Table 3). As expected, a person’s perception of symptoms correlated well with the decrease in FEV1 induced (the greater the induced dyspnoea, the larger the perceived difference in dyspnoea). However, none of the covariates reached the level of statistical significance. The result was similar using the VAS scores: neither perception of symptoms nor any of the covariates in the model played a significant role in medical control. Table 5 presents the results from the dichotomized analysis: 23 subjects indicated that they did not perceive shortness of breath in spite of a decrease in FEV1, induced by histamine, while the remaining 111 subjects did perceive the induced dyspnoea, to some extent. Only 22% of the non-perceivers consulted their GP compared with 41% of those who did perceive symptoms. This almost threefold approached statistical significance (p = 0.08), the associated odds ratio was 2.55. Psychological factors as possible causes of underdiagnosis

A second sample was studied to determine whether psychological factors were associated with seeking medical help. Despite randomisation, a smaller proportion (20.8%) of this group had consulted their GP than in the whole group. None of the psychological tests showed significant differences between those who did and did not consult a GP for shortness of breath. Univariate testing of the differences produced similar results, indicating that correlation coefficients did not influence the outcome. All differences between the two groups were highly significant (the effect sizes ranged from 0.69 to 0.30).
A randomised initiation of the treatment of asthma treatment

A.H. Morice and M.E. Taylor

ABSTRACT

Objective To compare the effectiveness of four classes of anti-asthma medication as initial treatment in a randomised open study in an asthma clinic setting. Design and subjects Eighty-six patients aged 16–70 years were recruited into an open trial following informed consent. The diagnosis of asthma was established by either a 15% diurnal variation in peak expiratory flow rate (PEFR) and/or bronchodilatation to inhalable salbutamol. Patients were randomised to one of the following drug classes: a) A regular inhaled corticosteroid; b) A regular inhaled long-acting ß2-agonist alone; c) A regular inhaled corticosteroid and long-acting ß2-agonist combination; d) A regular inhaled long-acting ß2-agonist. Outcomes:FEV1, and symptom days.

RESULTS: Baseline characteristics of the four groups were similar. Mean FEV1 was 1.58 l (SD 0.32), with an improvement of 0.49 l (SD 0.29) over 1 year. There was no difference between the four groups in the proportion of patients achieving the predefined goals. No patients were lost to follow-up.

CONCLUSION: The four classes of anti-asthma treatment were equally effective in the management of asthma.

Our increased understanding of the chronic inflammatory nature of asthma has led some authorities to advocate the use of anti-inflammatory drugs in first-line management.1 In the UK, despite widespread knowledge and acceptance of guidelines recommending the early use of steroids in adults, inhaled ß-agonist bronchodilator therapy alone has become the most widely used first-line treatment.1

The objective of asthma management is to improve the quality of life for patients by abolishing symptoms, improvement of lung function, and reduction of severity and frequency of exacerbations. As the majority of asthmatics are in the mild-to-moderate category, the first choice of anti-asthma medication is important both in terms of achieving these objectives and providing cost-effective care. In this study we have examined the short-term response of the commonly prescribed asthma medications in a ‘real-life’ study conducted in a nurse-run asthma clinic designed to be as similar as possible to that seen in primary healthcare.

METHOD

The trial was approved by the Local Ethics Committee. Patients with mild-to-moderate asthma were recruited by direct referral from interested general practitioners or from hospital departments. These patients were seen as self-referrals and were randomised after contact with their GP. Only patients not currently taking anti-asthma therapy were included. Previous occasional use of ß-agonist bronchodilators did not preclude entry into the study.

The diagnosis of asthma was established by the demonstration of one of the following: • A 15% diurnal variation in PEFR over one week; • A ≥15% increase in FEV1 with salbutamol 200 µg from a metered dose inhaler; • A reproducible fall in FEV1 caused by inhaled potassium chloride exposure to a precipitating factor.

Informed consent was obtained on the initial visit. Patients were assessed by computerised questionnaire

Asthma in General Practice
for body mass index and height or weight. Baseline data were assessed by a computer-generated list designed to be used to randomise patients to one of two formulations of inhaled corticosteroids. The medication was administered in an open fashion and was assessed over a one-month period. Where possible, patients were randomised to one of two formulations within each class to ensure applicability of the results as a class effect. The four drug classes were: A short-acting β-agonist (Aerolin Autohaler 200 µg bid or Brincatrol Turbosol 50 µg, n = 21); An inhaled steroid (Budesonide 200 µg bid or Pulmicort Turbosol 100 µg bid, n = 25); A cromone (nedocromil sodium 4 mg qds, n = 22); Oral theophylline (Nuelin 250 mg bd or Theodur 300 mg bid, n = 23).

Once randomised, the patient was required to complete a DRC for one month, recording serial PEF readings and symptoms on a diary card (DRC). A salbutamol inhaler could be used as a rescue medication. If the patient was randomised to a corticosteroid, they would be instructed on inhaler technique, which was assessed at each visit.

**Table 1** Baseline characteristics of patients enrolled into the study

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Steroid</th>
<th>Cromone</th>
<th>Theophyline</th>
<th>β-agonist</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEV1 (SD)</td>
<td>2.6 (1.3)</td>
<td>2.3 (1.1)</td>
<td>2.3 (1.2)</td>
<td>2.3 (1.5)</td>
</tr>
<tr>
<td>FVC (SD)</td>
<td>3.4 (1.2)</td>
<td>3.7 (1.2)</td>
<td>3.9 (1.4)</td>
<td>3.9 (1.2)</td>
</tr>
<tr>
<td>Days per week with wheeze</td>
<td>4.3 (3.1)</td>
<td>5.0 (2.7)</td>
<td>5.4 (2.2)</td>
<td>5.3 (3.2)</td>
</tr>
<tr>
<td>Days per week with cough (SD)</td>
<td>3.7 (3.3)</td>
<td>4.6 (3.1)</td>
<td>2.8 (3.0)</td>
<td>4.3 (3.2)</td>
</tr>
<tr>
<td>Days per week with spasm (SD)</td>
<td>3.0 (3.2)</td>
<td>4.1 (3.3)</td>
<td>1.8 (2.3)</td>
<td>2.6 (2.2)</td>
</tr>
</tbody>
</table>

**Results**

Baseline characteristics of the four groups were similar; mean FEV1 (predicted) was 2.61 (82%); mean FVC was 3.61 (91%). Where, cough and expectation were present on 4.2, 3.8 and 2.8 days per week (Table 1).

At one month, the greatest improvement in the number of symptom-free days was seen in the group taking inhaled steroids. Mean days per week with wheeze fell by 1.3 (p < 0.05) cough by 0.5 and expectation by 1.3 (p < 0.05). Nedocromil sodium produced similar but less striking results (0.8, 0.3 and 0.8, respectively; NS). Other modalities of treatment produced no significant change in symptoms (Table 2). In this group of patients with mild asthma, mean improvement in PEFR was greatest in the steroid group (11%; p < 0.02) followed by the nedocromil sodium (9%; p < 0.02). There was no change with short-acting β-agonists or Cromone (Table 2).

**Discussion**

In this group of patients randomised to one of these asthma medications, we found that the cromone nedocromil sodium had a similar spectrum of activity on symptoms and lung function, but was less potent. This is consistent with the known activity of nedocromil sodium being anti-inflammatory, but to a lesser degree than that of inhaled steroids. Within the group of patients responding to nedocromil sodium, as might be anticipated, some patients reported considerable benefit. Whether such patients respond as well as they would to inhaled steroids, thereby establishing the known activity of nedocromil sodium as a true alternative to inhaled steroids in asthma, is unknown. Unfortunately, there appears to be little likelihood of long-term efficacy studies for this group of patients.

What is the best first-choice treatment for patients with mild-to-moderate asthma? National guidelines suggest the use of β-agonists as the first choice, with early intervention with a low-dose inhaled steroid.

**Preschool children with asthma: Do their GPs know?**

**M.J.A. Tacchi, J.H.M. Uijen, B.P. Pisonien, L.W.A. van Suijlekom-Smit, J.C. de Jongste and J.C. van der Wouden**

**Abstract**

Objective: To answer the following question: Are children with asthma known to their GP? Patients: All of the 464 children, 1–3 years of age and registered with five general practices, who were identified by a postal questionnaire asking about asthma symptoms and medication. Results: Eighty-seven percent of parents responded to the follow-up postal questionnaire about asthma symptoms and medication. Our patient database was used to identify which children were prescribed a beta-agonist, inhaled corticosteroids and inhaled bronchodilator medication. The children were divided into two groups, those who were diagnosed and those who were not.

Analysis of the results showed that 90% of children with severe asthma were known to their GP compared to 48% of those with mild asthma. The GPs were more likely to be aware of children with severe asthma who had been treated with a beta-agonist, inhaled corticosteroids and inhaled bronchodilator medication. Children who had been diagnosed with asthma were more likely to be known to their GP. The parents of children who had been diagnosed with asthma were more likely to have been consulted at their GP’s office. Conclusions: Most preschool children with asthma are known to their GP. The GP’s diagnosis is recorded less often than asthma symptoms and medication.

**Results**

Eighty-seven percent of parents responded to the follow-up postal questionnaire about asthma symptoms and medication. Our patient database was used to identify which children were prescribed a beta-agonist, inhaled corticosteroids and inhaled bronchodilator medication. The children were divided into two groups, those who were diagnosed and those who were not.

**Acknowledgements**

We acknowledge the financial support of the following companies: Astra UK, Glaxo/Wellcome, Fortis and J&M.

**References**


**Original Research**

**Original Research**
**INTRODUCTION**

Spitgl highlighted the undiagnosed and undertreatment of childhood asthma more than 15 years ago. 1 In a general practice audit by Levy and Bell, only one third of asthmatic children had their illness diagnosed before the age of four years, despite most having presented with respiratory symptoms by this age. 2 Since then, this subject has been of increasing interest to researchers, clinicians, and general practitioners. This is reflected in the publication of various consensus reports during the last few years. 3–6 We would expect more children with asthma-like symptoms to be known to their GPs.

The prevalence of asthma in 0–3-year-olds is high; rates vary from 5% to 31% according to the definition of asthma and methods used for identifying cases. Guidelines for appropriate treatment have been widely disseminated and published 7 and some authors have suggested that this process may improve long-term prognosis. 8

By studying GPs’ medical records of children, Neville found that 32% were potentially asthmatic. 9 No attempt was made, however, to validate these findings by interviewing parents. Strachan 10 reviewed general practice records of 369 children at seven years of age: 51% had some history of asthma. He compared the records with data from parental questionnaires of 174 of these children and concluded that parental recall of early episodes is incomplete and biased by the severity and persistence of the symptoms of the child.

In the Netherlands, every patient is registered with a general practitioner who acts as ‘gatekeeper’ to secondary care. This offers a comprehensive sampling base for asthma research. We compared GPs’ records of children with parents who answered yes to at least two out of the three following questions: 8

- If the parents think their child has asthma now.
- Wheezing or asthmatic condition once or more per week.
- Awakened by coughing or wheezing during night-time?

METHODS

Parents of all 464 preschool children (1–3 years old) in five general practices received a postal questionnaire through their GP. Two weeks later, a reminder was sent to non-responders. The practices (both rural and urban areas, nine general practitioners), which were affiliated with the Department of General Practice of Erasmus University, had no special interest in asthma (no clinics of asthma or asthma nurses). As there is no suitable and well-validated questionnaire for assessing asthma in this age group, we devised one of our own by adopting validated questions from previously developed questionnaires. 11 One questionnaire contained items about asthma symptoms (such as wheezing, dyspnoea, past and present asthma medication, and morbidly experienced by the child) and the other general medical history of the child.

Based on the answers received, the children were classified as having no, mild, moderate or severe asthma (Table 1), according to recurrent airway symptoms and use of specific asthma medication. 12 Peak expiratory flow measurements are not possible in most preschool children. Jones et al. 13 showed that asthma symptoms are closely related to results of lung function tests in children over five years. 14 We examined asthma symptoms recorded in GPs’ records (some handwritten, some computerised, some both) of these children, checked whether children with asthma-like symptoms who were not classified as having asthma actually presented with asthma symptoms, specific asthma medication and asthma-related diagnoses (asthma, acute bronchitis, chronic non-specific respiratory disease) since birth. The two people who studied the files were unaware of the answers in the parental questionnaire.

Asthma severity, based on questionnaire answers, was compared to asthma symptoms, specific asthma medication and asthma-related diagnoses found in the medical records of these children. Data were analysed with SPSS-PC. Differences between responders and non-responders were tested by means of a χ² test (p < 0.05).

RESULTS

A total of 404/464 (87%) parents responded to the questionnaire. Analysis of the non-responders showed no differences between responders and non-responders with respect to the GPs’ recorded information on contact frequency and the presence of asthma-like symptoms, diagnoses and medication. Forty percent of the non-responders were from ethnic minorities (Morocco and Turkey) compared with 14% in the total population (p < 0.01).

Of the 404 children for whom questionnaires were completed, 88% (361) did not have asthma. According to our criteria, 28% (144) were classified as having mild asthma, 4% (17) as having moderate asthma and 8% (22) as having severe asthma.

Asthma symptoms were recorded in 35% of the 464 files of children 1–3 years of age (Table 2). The distribution of these asthma symptoms in the GPs’ files showed some overlap between different items. Chest congestion with or without spumum production was recorded most frequently, followed by wheezing and tachypnoea.

In nearly 32% of all records, the general practitioners prescribed specific asthma medication, including deptropine, an anticholinergic drug which is frequently prescribed in the Netherlands, but is uncommon elsewhere. 11 The prescription frequencies of specific asthma drugs are shown in Table 3. For reasons of comparison with other countries, we present figures with and without deptropine. When deptropine prescriptions were excluded, the prescription of specific asthma medication consequently dropped from 32% to 12%.

Asthma-related diagnoses were recorded by GPs in 21% of the 464 files of children. Allergic rhinitis was recorded most frequently. To answer the main question, we compared the information on contact frequency and the presence of asthma-like symptoms, diagnoses and medication extracted from our search as their prescription for asthma is not advised.

The limited number of practices included in our study means that the conclusions should be generalised with caution. Regarding the affiliation with the Department of General Practice, the choice of selection bias will be small as several hundred practices have contact with the Department for teaching, vocational training and research activities. Of the practices that participated or completed this study had been involved in any previous study in the field of childhood asthma.

For the practices studied, our results indicate that many more children are asthmatics than known by their general practitioners. Our results also indicate that both asthma symptoms and specific asthma medication are more sensitive pointers for detecting children with asthma from GPs’ files than specific diagnoses of asthma-like diseases.

REFERENCES


Table 2: Number (%) of GPs’ files (n=464) containing asthma symptoms or diagnoses

<table>
<thead>
<tr>
<th>Asthma symptoms</th>
<th>Allergy (%)</th>
<th>Allergic rhinitis (%)</th>
<th>Acute bronchitis (%)</th>
<th>Chronic non-specific respiratory disease (%)</th>
<th>Asthma (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy</td>
<td>163 (35.1)</td>
<td>74 (15.9)</td>
<td>63 (13.6)</td>
<td>63 (13.6)</td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Allergic rhinitis</td>
<td>74 (15.9)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Acute bronchitis</td>
<td>63 (13.6)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Chronic non-specific respiratory</td>
<td>63 (13.6)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>37 (8.0)</td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>disease</td>
<td>15 (3.2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Number (%) of GPs’ files (n=464) with specific asthma medication

<table>
<thead>
<tr>
<th>Specific asthma medication</th>
<th>Allergy (%)</th>
<th>Allergic rhinitis (%)</th>
<th>Acute bronchitis (%)</th>
<th>Chronic non-specific respiratory disease (%)</th>
<th>Asthma (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deptropine</td>
<td>148 (31.9)</td>
<td></td>
<td></td>
<td></td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Prednisolone</td>
<td>137 (29.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortal cyanide</td>
<td>51 (11.0)</td>
<td></td>
<td></td>
<td></td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Ipratropin</td>
<td>54 (11.7)</td>
<td></td>
<td></td>
<td></td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Salmeterol</td>
<td>23 (5.0)</td>
<td></td>
<td></td>
<td></td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Ciclesonide</td>
<td>144 (31.0)</td>
<td></td>
<td></td>
<td></td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Sodium cromoglycate</td>
<td>5 (1.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthines</td>
<td>3 (0.65)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ben Ponsioen General Practitioner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hans van der Wouden Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of General Practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 4.1.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erasmus University, PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box 1738, 3000 DR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotterdam, The Netherlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liesbet van Steijnkomst</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor in Pediatrics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johanne de Jongste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor in Pediatrics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Pediatrics, Erasmus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University, PO Box 1738, 3000 DR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotterdam, The Netherlands and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophia Children’s Hospital, Rotterdam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Does implementing COPD guidelines improve patient care and save money in practice?

R.C.M. Jones and S. Copper

ABSTRACT

Objectives: To identify and assess the management of patients with COPD attending our asthma clinic by implementing protocols for the diagnosis and management of COPD, including reversibility testing.

Design and subjects: All patients aged over 39 years attending the asthma clinic at The Roborough Surgery were included. We assessed the implementation of the protocols and analysed prescribing data in those found to have reversible airway obstruction.

Results: COPD was found in 35/58 adults (60%) over 40 years of age. These 6 (17%) were irreversible. In irreversible patients, less inhaled steroids were prescribed, but this was offset by more bronchodilator prescriptions. The majority had appropriate diagnostic tests, but the uptake ofaskins was low, underwent reversibility assessment. Those who were reversibility and, if still low, underwent reversibility assessment. Those who were recovered, by the methods listed below, to normal FEV1 or FVC, FVC ratio were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Reversibility assessment

Reversibility was defined as a variation in FEV1 or FVC ratio were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Conclusions: Applying COPD protocols did not reduce prescribing costs, but encouraged optimum patient care in terms of investigations, diagnosis, appropriate treatment and immunisation.

INTRODUCTION

It has been stated that most patients with COPD have irreversible airway obstruction. ACOSS these patients often receive expensive, but ineffective, drug treatment. As the disease progresses and they become more breathless, treatment is added, with increased prescribing costs. Reversibility testing is useful in excluding chronic asthma from COPD and establishing whether drug therapy is likely to be beneficial. It has been predicted that large savings could be made if reversibility testing is systematically applied to patients with COPD in primary care.

In June 1996, the surgery introduced protocols for the diagnosis and management of COPD agreed by partners and nurses. These include reversibility testing, appropriate investigations, smoking advice, vaccination and treatment review. The protocols were produced in conjunction with British Thoracic Society (BTS) guidelines, but preceded the publication of the BTS guidelines. They are compatible with the European Respiratory Society (ERS) guidelines. The primary aim of this audit was to establish how many patients attending the ‘asthma’ clinic had COPD, and to assess the feasibility and impact of the management guidelines within our practice. The secondary aim was to assess the effect on prescribing costs of implementing a policy of stopping inhaled steroids in patients with irreversible airflow obstruction.

METHODS

The study group consisted of all patients aged over 39 years who were attending the nurse-led clinic, which is supported by two general practitioners with an interest in respiratory disorders. The practice used two spirometers: the first, a small vane type (Mediclinics Ltd), was used for screening and in GP consultations; the second was a fully computerised type (Vitalograph Ltd), which needed calibration whenever it was set up and was used by the nurse during asthma clinics. Being more accurate, it also used to check the findings of the microspirometer.

The practice has one half-time and five full-time doctors caring for 17,000 patients (47% male) aged over 39 years. It is located in the northern suburbs of Plymouth and extends to the southern fringes of Dartmoor in southwest Britain. There is a wide range of social class with a deprivation index close to the national average.

Protocols

The protocols were designed in conjunction with Professor D. Skale of the Department of Respiratory Medicine at the University of Wales School of Medicine. The following were agreed by the primary care team.

All patients over 39 years of age attending the asthma clinic should have diagnosis by spirometry. If the FEV1 was more than 80% of expected or the FVC ratio were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Reversibility assessment

Reversibility was defined as a variation in FEV1 or FVC ratio were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Conclusions: Applying COPD protocols did not reduce prescribing costs, but encouraged optimum patient care in terms of investigations, diagnosis, appropriate treatment and immunisation.

REFERENCES

2. Warner JO, Dorrington A, Topham D, Kinsella A. The natural history of asthma and bronchiectasis as well as other significant medical conditions such as ischaemic heart disease, osteoporosis and diabetes.

Vaccination status

In our practice, we recommend influenza immunisation annually. We agreed that we would record whether patients were advised to have the vaccine, and if and when it was administered.

Pneumococcal immunisation was recommended to be administered on one occasion for all patients, according to current Department of Health advice.

RESULTS

Fifty-eight adults over 39 years of age attended the asthma clinic in the preceding 12 months. After spirometry according to the protocols, 35/58 (60%) patients were diagnosed as having COPD. The mean FEV1 was 1.31, range 0.34–2.4. Table 1 shows the grade of severity and results of reversibility testing in patients attending the ‘asthma’ clinic had COPD, and to assess the feasibility and impact of the management guidelines within our practice. The secondary aim was to assess the effect on prescribing costs of implementing a policy of stopping inhaled steroids in patients with irreversible airway obstruction.

ABSTRACT

Objectives: To identify and assess the management of patients with COPD attending our asthma clinic by implementing protocols for the diagnosis and management of COPD, including reversibility testing.

Design and subjects: All patients aged over 39 years attending the asthma clinic at The Roborough Surgery were included. We assessed the implementation of the protocols and analysed prescribing data in those found to have reversible airway obstruction.

Results: COPD was found in 35/58 adults (60%) over 40 years of age. These 6 (17%) were irreversible. In irreversible patients, less inhaled steroids were prescribed, but this was offset by more bronchodilator prescriptions. The majority had appropriate diagnostic tests, but the uptake of reversibility testing was low, underwent reversibility assessment. Those who were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Reversibility assessment

Reversibility was defined as a variation in FEV1 or FVC ratio were diagnosed as asthma, the remainder with persistent airflow obstruction were deemed to have COPD.

Conclusions: Applying COPD protocols did not reduce prescribing costs, but encouraged optimum patient care in terms of investigations, diagnosis, appropriate treatment and immunisation.
those identified as having COPD. Reversibility was demonstrated in 29/35 (83%) patients; the diagnosis was made most frequently by informal assessment from the records (Figure 1).

Prescribing data were analysed for six months before and after reversibility testing for those deemed to have irreversible obstruction (six patients, Table 2). Three patients with irreversible disease were on inhaled steroids—two stopped and one continued as his cough became worse after stopping. The reduction in the cost of inhaled steroids, however, was offset by the increase in anticholinergic therapy.

There are practical difficulties in stopping inhaled steroids in patients with irreversible COPD. They tend to have more severe disease and do not always take kindly to having their treatment reduced when they are getting worse. Even if there are no objective changes in spirometry, this does not necessarily mean that they are not benefiting from anti-inflammatory treatment. In such situations, it is difficult to blindly follow guidelines and stop inhaled steroids rather than listen to the patient. After all, these results need to be considered cautiously as our spirometry is not necessarily an accurate indication of airway obstruction.

As only a small minority of our patients with COPD was irreversible and had their prescriptions reduced, reversibility testing may not lead to marked reductions in prescribing costs in COPD. However, these results need to be considered cautiously as our numbers were small and may not be representative of other populations of COPD patients in primary care. The findings do justify a larger multicentre study; such a study is due to start shortly.

The process of systematic review of patients with COPD may, in fact, increase costs as other drugs may need to be added. Anticholinergic drugs have a particular place in COPD29 and we have advocated a trial of this therapy; 70% of those patients who started it continued to use these drugs. In this sample of patients, none were receiving regular oral steroids, theophyllines or long-acting bronchodilators.

Despite active encouragement, our influenza vaccination rates are unacceptable low, demonstrating the need for a register of those at risk to check that they are invited at the right time and that they attend. We also had low rates of uptake of pneumococcal immunisation, but this may be less important and is not routinely recommended by the British or European guidelines on COPD.5

The value of performing a chest X-ray in all cases is debatable. It is helpful to exclude other pathology, such as carcinoma of the bronchus. The X-ray in this group was performed in the majority (60%) albeit that not all were done at diagnosis or in the last five years.

β2-blockers, aspirin and non-steroidal anti-inflammatory drugs are known to sometimes cause respiratory problems. Three patients attending the asthma clinic were being prescribed β2-blockers; these were discontinued immediately with beneficial clinical effect. Lentigine cases of airway obstruction should not be overlooked; auditing patients helps to avoid such pitfalls.

CONCLUSION

Our study describes a method for diagnosis and management of patients with COPD in general practice. Use of COPD protocols in patients attending the asthma clinic optimised patient care in terms of investigations, diagnosis, appropriate treatment and immunisation. We were, however, unable to reduce our prescribing costs through inappropriate use of inhaled steroids in patients with irreversible airway obstruction. Further larger studies in this area are needed.


every 2-3 months. This was a personal problem for me, as I am an asthmatic and smoking is not recommended for patients with asthma.

Dr Sheikh comments on the common association of rhinitis and asthma in his paper on ‘Asthma and co-existent disease’ (Asthma in Gen Pract 1998; 6(2): 15–19).

This was a personal problem for me, as I am an asthmatic. Effective treatment is to exclude through the nose any inhaled steroids prescribed for asthma: this is simple but seems to be little known.

Dr G S Plaat Holstein, Essex, UK.

Dr Plaat suggests that asking patients to exhale (via the nose) their inhaled asthma steroids is effective treatment for co-existent rhinitis. Whilst this sounds plausible, and may be of benefit to some patients, as far as I am aware, there is no published evidence supporting the routine use of such a strategy.

Highly effective, proven treatments for rhinitis, however, do exist and I would suggest that these are employed as first-line treatment options.

Dr A Sheikh Imperial College School of Medicine, London, UK.