Treatment of asthma in a general practice

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Summary

We examined the general practice treatment of 67 patients diagnosed as asthmatic. Compliance with treatment was poor in one-third of patients with severe asthma. Inhaled steroids were under-prescribed and our findings suggest that some severe asthmatics are receiving less than adequate therapy.

KEY WORDS: corticosteroid therapy, patient compliance, peak flow rate, spirometry.

Introduction

Many asthmatics may be receiving inadequate treatment (Seaton, 1978; Speight, Lee and Hey, 1983). Despite recent advances in drug therapy, it appears that some asthmatics, although correctly diagnosed, are left with severe airflow limitation which relatively simple treatment could reverse. We have examined the possibility that this may be so in a general practice.

Patients and methods

The study was undertaken in a five-partner practice in south-east London. There was no practice register of asthmatics, and from 12,500 case notes we identified 117 patients aged between 16-70 years with a written diagnosis of 'asthma' in the notes. Notes in which terms such as 'wheezy bronchitis', 'reversible airways obstruction' or 'wheeze' had been used were rejected. This method of selection will underestimate the prevalence of the disease, but the main interest was in the treatment of patients labelled as asthmatic. A letter, signed by a general practitioner, and containing a pre-stamped reply envelope, was sent to each patient. If necessary two further letters were sent and, where possible, a telephone call made. Only 67

patients (57%) participated. Twenty-one patients refused to participate and nine failed to attend a practice appointment having agreed to do so. Twenty patients did not reply to the letters and could not be contacted via the telephone. It is likely that many of these patients had moved, as the practice is in an area with a very mobile population.

Patients were interviewed and a modified M.R.C questionnaire completed. Spirometry (Vitalograph) and peak expiratory flow rate (PEFR—Wright peak flow meter) were measured before and 10 min after 200 µg of salbutamol by inhalation. Predicted values are from Cotes (1975). Results are presented as mean $\pm$ s.e.m. Skin prick tests to four common allergens and control were performed and for 1 week patients recorded home PEFR on a diary card.

Results

Sixty-seven patients attended (36 female, 31 male). The mean age was 36 years, 20 (30%) were current cigarette smokers and 51 (76%) had one or more positive skin tests. The mean forced expiratory volume in 1 sec (FEV₁) was $66 \pm 3\%$ predicted with $18 \pm 2\%$ reversibility and the mean PEFR was $72 \pm 3\%$ predicted. Seventeen patients (25%) claimed never to have been told they had asthma. Forty-one patients (61%) regularly used inhalers but nine of these (22%) were unable to use them correctly.

Twenty-one patients had a FEV₁ below 55% predicted, indicating severe airflow limitation (Group I). Forty-six patients had an FEV₁ equal to or over 56% predicted (Group II). There was good agreement between initial FEV₁ and PEFR readings. The mean FEV₁ in Group I was $35 \pm 3\%$ (PEFR $42 \pm 4\%$) and in Group II was $88 \pm 2\%$ (PEFR $86 \pm 3\%$). Home PEFR monitoring showed the expected diurnal variation with lower readings in the morning than in the evening (Group I, 38% v. 44%.

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Group II, 77% v. 81%). Group I had more frequent and severe wheezing attacks than Group II and estimated their breathlessness and disability as greater. Ten patients in Group I had a chronic cough and 10 were stopped by breathlessness when walking at their own pace. Treatment, as judged by symptoms and lung function during observation, was adequate in Group II. This was not so for Group I and the treatment recorded is shown in Table 1.

TABLE 1. Treatment being received by 21 symptomatic patients with an FEV₁ below 55% predicted (Group I)

No treatment	1
Bronchodilator only	9
Bronchodilator + inhaled steroid	4
Bronchodilator + inhaled steroid + oral steroid	5
Bronchodilator + disodium cromoglycate + oral steroid	2

In spite of severe symptoms and poor lung function, regular treatment with steroids (inhaled or oral) or disodium cromoglycate (DSCG) was used by only 11 patients (52%) in Group I. The remaining patients received a bronchodilator only (nine patients) or no treatment (one patient).

Discussion

We have studied a sample of 67 patients with asthma from a practice population of 12,500 (0.5%). This sample will underestimate the prevalence of asthma because of the age restriction applied, insistence that the written diagnosis should use the word 'asthma' and because of limited patient co-operation. Our interest was not in the prevalence of asthma but in the disability and treatment of those diagnosed as asthmatic. After a firm diagnosis of asthma has been made, treatment should be aimed at obtaining the best results for lung function and symptoms within the limits of an acceptable drug regime. If symptoms and airflow limitation persists on a simple bronchodilator regime we would expect to find that a regular prophylactic drug had been used, such as DSCG, inhaled or oral steroids (Editorial, 1979). In Group I, 21 asthmatics who were symptomatic with poor lung function, this expectation was not fulfilled. Nine patients (43%) received no treatment apart from a bronchodilator and one patient no treatment at all. Two patients were using DSCG (although nine had a strong history of atopy) and 10 (48%) were receiving neither oral nor inhaled steroids. All patients were known asthmatics and it was considered that in at least seven patients the major reason for inadequate treatment was that the doctor had failed to appreciate the severity of the disease. We excluded children from our survey, but there is evidence that childhood asthma is underdiagnosed and undertreated (Speight *et al.*, 1983; Anderson *et al.*, 1981). Parents are often

not told the diagnosis, bronchodilators and prophylactic treatment are underused and the use of inappropriate drugs is common. Our study suggests that in adults too, unsatisfactory treatment may be widespread. In Melbourne, Australia, in a group of asthmatics aged 21 years with severe or persistent wheeze, 20% were receiving no medical care and 41% inappropriate treatment (Martin, Landau and Phelan, 1982). In a recent study of 90 asthma deaths, a British Thoracic Association (BTA) Panel reviewed treatment in the year preceding death and concluded that maintenance therapy was unsatisfactory in 61% of patients (British Thoracic Association, 1982). Stellman, Spicer and Cayton (1982) have reviewed the response to treatment of asthma patients referred to a hospital clinic. They found that pre-referral treatment was often inadequate and that asthma had not been diagnosed in one-third of patients referred. With greater use of inhaled bronchodilators and inhaled steroids most patients improved (Stellman *et al.*, 1982).

It is not only doctors who are responsible for unsatisfactory treatment. Patients too can ignore their asthma. Some patients may not detect deteriorating asthma (Rubinfeld and Pain, 1976), but in our study seven asthmatics with severe symptoms had repeatedly failed to renew their prescriptions or to visit the doctor as requested. Similarly, the 1982 BTA study of asthma deaths found that only 47% of patients had co-operated fully with their treatment. We conclude that many asthmatics are receiving inadequate treatment and that a failure or reluctance to use steroids is common.

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