

General Practice Series

THE MANAGEMENT OF THE CHRONIC ASTHMATIC PATIENT

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Few conditions tax the busy practitioner's patience, understanding, and skill more than chronic asthma, and no other disease demonstrates more clearly the importance of the aphorism that the whole patient demands consideration together with his special symptoms of respiratory distress.

The cause of asthma remains unknown but in the management of the condition it is perhaps worth-while considering the two broad streams whose mingling seems to determine the course which chronic asthma may take. The first, and most constant, is hereditary. Exactly what is inherited is difficult to determine. Probably the most important components are an over-sensitive respiratory tract, including the nasal mucous membrane, an over-active vasomotor system, together with an unstable type of psyche which is often labelled 'neuropathic'. The other stream comprises triggering factors, which may range from a seemingly clear-cut allergy (for instance a sensitivity to dogs or cats) or a change in weather conditions to a specific worry. It is the constant interplay of these two streams which makes the management of the chronic asthmatic so difficult of control. But the problem may be clarified by considering the management of any case from certain specific angles.

PSYCHOLOGICAL

I am in full agreement with those authorities who stress the overriding importance of psychological factors in the aetiology of asthma. Possibly few chronic asthmatics would benefit greatly from formal psychotherapy and in any case such treatment is not at present easily available in South Africa. The development of group psychotherapy, however, may play an important role in the management of certain cases of chronic asthma, and every asthmatic patient stands a far better chance or remaining in his best state of health if his practitioner will keep his 'psychological' eye open.

It is easy to generalize—to point out that the asthmatic is inconstant, for ever trying out new remedies, often without consulting his doctor; that he is a demanding patient, especially in exacerbations of his condition when he needs immediate attention at awkward hours; that he is ever looking for the magic pill which will cure him without requiring any special effort on his part. He is often resentful of his state. The diabetic who is condemned to have his daily injections or other medication and to live on a restricted diet does not as a rule bewail his lot. He is thankful for the mercy of insulin although it does no more than control his disease. Not so the asthmatic; and surely one of the reasons is that his wheezings and dyspnoea are always calling attention to his condition. He comes to dread the daily inquiries

for his health. He can seldom bring himself to use his inhaler in public. Uncertainty how he may be tomorrow or in two weeks' time interferes with the planning of a normal life and creates anxiety. Equally difficult is the reverse of this picture, where symptoms appear in order to attract attention or create sympathy or to avoid unpleasant realities which cannot be faced.

What definite therapeutic suggestions can be offered to deal with these common psychological problems? First, the patient must feel sure that he has his doctor's real sympathy and understanding. I do not think that anybody who has not been acutely dyspnoeic himself can have the faintest idea of the anguish it causes, both mental and physical, or what fear it engenders. Even moderate dyspnoea is frustrating in a way few other symptoms are. Nobody, whatever the apparent reason, wants to have asthma. Therefore, while using all his detective skill to unravel the psychological factors, present or past, in a particular case, the practitioner must accept the asthmatic as he finds him: a person who is hampered from living a full life. Asthmatics are not resistant to psychotherapy. The fact that their intelligence is commonly above the average often makes them very cooperative. Let us take a very simple example. The doctor may be convinced that the most important factor in preserving his patient's asthma is the close proximity of a hostile mother-in-law. The patient may agree with him. Circumstances may make her removal from the patient or the patient's removal from her impossible, but the realization that his doctor knows and appreciates the position may make all the difference to the patient and may enable him to develop a more positive attitude to the problem. The problem is difficult or insoluble, but it may be used to make the patient learn to live with his asthma and not against it.

Secondly, the asthmatic needs encouragement and hope. He is quick to sense the atmosphere of hopelessness which is so easily engendered by a doctor who can only spare the time to hand out the latest sample. Although it would seem to be unlikely that there will ever be the kind of magic pill we have already mentioned, the prospects for the chronic asthmatic are infinitely brighter today than they were 10 years ago. It is surprising, in view of popular belief, what a big percentage of chronic asthmatics can be kept at work and leading reasonably active lives. Often patients do not realize this. Because they come to suspect that there is no cure for their condition they may easily fall into a permanent 'slough of despond'. This tendency may be prevented by insisting on a regular 'check-up', when proper time is allowed to assess the patient's condition and to compare it with that on previous occasions, stressing the good points, even

if this can amount to no more than a mention of the complications which have not occurred. Time should also be allowed to review the whole regime which is being followed and to review critically the drugs or other therapy which are being used. It is essential to preserve and foster the patient's confidence in his doctor's continued interest in his condition. Chronic asthmatics are apt to be well informed about all the latest drugs on the market, and it is essential to be able to give advice on this score while remaining tolerant of the patient's foibles.

DRUG THERAPY

The Irishman who said that the cure for asthma was not to have it, perpetrated an aphorism which applies to the drug therapy of all chronic asthma. The emphasis must be on prevention, not only of acute exacerbations but also of as much as possible of the chronic wheezing and coughing which probably do more harm than acute asthmatic attacks in the ultimate production of emphysema. Nearly all chronic asthmatics have a cupboard full of remedies which have helped them at various times; but the basic requirements are best met by a tablet containing aminophylline, ephedrine and phenobarbitone. Often such a tablet must be used, either at night or more frequently, for many months at a time. There are many brands on the market, and often a patient who has become 'used' to one brand will respond to another of very similar composition. Some patients prefer plain aminophylline or, if this causes gastric irritation, may be helped by choledyl. Aminophylline suppositories are often very useful in tiding a patient over an exacerbation of his asthma. They are well tolerated even by children. Their effect seems to be quicker than oral preparations; and it is certainly longer lasting, which makes them an excellent remedy for covering the night.

Where a quick action is needed, sublingual isoprenaline tablets are useful. A disadvantage is their tendency to produce uncomfortable palpitation.

Many chronic asthmatics should be taught to give themselves subcutaneous adrenaline injections. Often quite small doses (0.25 - 0.5 c.c.) given early will check an acute exacerbation and will give time for the more slowly acting remedies. Obviously, not every asthmatic has a suitable personality or intelligence for this form of self-medication; but the confidence given by having such a remedy *at hand* (and it is quite useless to prescribe a syringe and ampoules for a patient unless they are going to be kept in a place of safety where they are always easy to come by) has an anormously good psychological effect in a cooperative patient.

Sprays and Inhalers

These are very widely used and have tended to replace the old-fashioned asthma powders and cigarettes, whose main disadvantage is that they cause coughing and thereby often increase bronchial spasm. The spray itself must deliver a really fine mist of the consistency of exhaled tobacco smoke; otherwise it does not penetrate far enough down the bronchial tree. The composition of spray mixtures varies, but the active ingredients are usually methyl atropine, isoprenaline or a 1:100 solution of adrenaline hydrochloride. The more recently introduced pressurized sprays seem to me to be advantageous; they are more portable, cleaner and less wasteful than the hand type, and in most of them an attempt is made to regulate the dose delivered at each application.

The great benefit of the spray is in the prevention of attacks and if it is to be effective it must be applied early. Once an outpouring of mucus into the bronchial tubes has occurred a mechanical barrier has been set up and the spray mixture is poorly and slowly absorbed. Bronchial constriction and spasm also add to this absorption problem.

Long-continued use of sprays seems to do little harm and, curiously enough, isoprenaline when given by this method does not as a rule produce much palpitation. Of course, many chronic asthmatics become real spray addicts and use their apparatus far more often than is strictly necessary; but there seems to be little proof that much harm accrues. Patients often voice their fears about the effect of anti-asthmatic drugs—sprays included—on their hearts; I know of no convincing evidence that these fears are well founded. A spray in the pocket or handbag is the asthmatic's talisman. The fact that it is missing from its accustomed place is often objective evidence of a patient's improvement.

Expectorants and Linctuses

One of the basic pathological concepts of asthma is the outpouring of a very sticky mucus into the bronchial tree and this, together with the associated circulatory congestion, is probably of far more significance than actual spasm of the bronchial musculature. Bronchial obstruction may be far commoner than is suspected, and small areas of pulmonary collapse must follow. This sequence, together with cough—cough which in the face of the sticky exudate is usually ineffective—is one of the greatest factors leading to the development of emphysema.

How then should the cough of asthma be treated? In the acute attack it is often wise to suppress the constant irritating desire to cough by means of a linctus. There are really only two drugs which need be considered, viz. codeine and methadone. One or two teaspoonfuls of syrup codeine phosphate and a like amount of linctus methadone (Physeptone) may be given. Obviously judgment is necessary, especially with methadone, and the linctus should be stopped as soon as it is judged that the mucus is 'loosening'. Often patients are aware of this moment themselves.

It is doubtful whether the so-called expectorants, unless used in heroic emetic doses really have much effect in removing secretion from the bronchial tree. But tradition will probably hallow their use for some years to come. Their place could probably well be taken by hot drinks, and most chronic asthmatics have found that the sipping of such a drink, flavoured to their own liking, does help them to expectorate more easily. Iodine, because it is excreted to some extent *via* the bronchial tree, has, for many years, been regarded as an expectorant. This reasoning is probably unsound but, nevertheless iodine, often taken for weeks on end, seems to help a great many asthmatics. The form in which it is given probably does not matter. My own preference is for a mixture containing 15 gr. of potassium iodide and 20 mm. of spirit. ammon. aromat. with water to the half ounce; one dose to be taken well diluted once a day.

Before leaving the subject of cough there is one other important point to be made. Asthmatic patients often cough on going to bed. This may be due to change of posture or change of temperature. A dose of linctus methadone on retiring may make all the difference to the night's sleep.

Steroids

With the assessment of steroid therapy at present very much in the melting pot, it is impossible to be dogmatic about its use and abuse. On the whole, steroids are best reserved for acute episodes and should only be given for short periods. The difficulty which faces the doctor is that many patients who have experienced the benefit of steroid therapy, wish to continue its use far beyond what is really necessary or wise, and are loathe to accept their slightly lesser state of well-being when they revert to more conventional therapy. Perhaps it is fortunate, therefore, that the price of steroids remains high. Tact and firmness of purpose together with a frank explanation of the dangers, both known and unknown, involved in the continued use of steroids will help to overcome this difficulty in most cases. But there remains a proportion of asthmatics whose condition does justify maintenance dosage on these drugs. It is impossible to give precise indications, but I would offer the following suggestions:

The simple examination of sputum from a case of chronic asthma complicated by bronchitis and emphysema may help to decide whether steroids are likely to help. If eosinophils are found in the sputum, steroids will usually help.

Many chronic cases of asthma can be maintained on far smaller doses of steroid than is generally realized. The attainment of this minimal dose should be undertaken as early as possible. It can always be increased to meet any special need.

Antispasmodic therapy should not be discontinued when a patient is on steroids.

It is wise to see patients who are taking steroids at least once a fortnight, and it is probably also wise to give them an injection of 40 units of one of the long-acting preparations of ACTH once a month.

A regular X-ray check of the chest should be made at least once in 6 months to ensure that the flaring up of some quiescent focus of tuberculosis has not taken place.

Some responsible person, a relation or friend or even the patient himself, should be made aware of the very real dangers of continued steroid therapy. Often patients will prefer to accept the fact that there have been disturbing reports about rising mortality rates in asthmatics on steroids rather than continue with the disability suffered in pre-steroid times. As doctors we must face the fact that we do not know what the long-term effect of steroid therapy on many diseases is, and without alarming our patients I think we are justified in making them share with us the uncertainty which this lack of knowledge imposes.

It is impossible to suggest which steroid preparation should be used; new preparations are being produced with such rapidity. My own preference is for methylprednisolone the steroid with which I have had the most experience in asthmatics. In the type of case I am envisaging I have seldom had to use more than 16 mg. a day at the outset of treatment, and many of these cases can quite rapidly be reduced to a maintenance dose of 4 mg. a day.

Special care is needed where steroids are being used in cases prone to bronchial infections, for the treatment may mask these infections. Prompt and vigorous antibacterial treatment is necessary if a bronchial infection does develop.

OTHER FACTORS

Upper Respiratory Infections

The great majority of chronic asthmatics will suffer exacerbation of their condition if they contract an upper respiratory

infection. It is almost impossible to avoid catching the common cold but it is easy for the asthmatic to become morbidly afraid of doing so, and it seems likely that this fear may in some way lower his resistance to this type of infection. The patient sometimes adopts absurd habits; one of the commonest is the wearing of far too heavy clothes, especially in winter, which interferes with the normal functioning of the skin. The choice of clothing must depend on the patient's occupation, and it is well worth-while taking particular trouble to keep the feet warm and dry even if this involves keeping a change of shoes and socks at the place of work. Changing from heavy outdoor or working clothes into light woollies on coming home in the evening is also a habit worth cultivating. Changes of temperature in the house often lead to bouts of coughing and so set off asthmatic attacks; this change most often occurs between sitting room and bedroom. The old-fashioned warning about the dangers inherent in the 'night air' do sometimes apply with considerable force to asthmatics living along our coastal belt, and shut bedroom windows and an open bedroom door may be the best type of ventilation for them at night.

Whatever the reason—faith or something more specifically scientific—a proportion of chronic asthmatics get fewer colds if they are given a course of anticoryzal vaccine in the early autumn. In many cases an oral vaccine is the treatment of choice.

If an asthmatic develops a cold, a day or two spent in bed, or at least in one atmosphere, is a really worth-while investment. If bronchitis develops and sputum becomes purulent antibiotics should be used without delay. This is especially important if steroid therapy is being used or has been used in the near past. Ideally, the sputum should be cultured and the organism tested for antibiotic sensitivity. This is not always possible and, in any case, while such an investigation is being made, treatment should be started. A broad-spectrum antibiotic should be used and one of the tetracycline preparations is probably as useful and safe as any.

Unfortunately there is a group of patients who, for reasons which are not fully understood, tend to run a more rapid course towards chronic bronchitis and emphysema, and in them antibiotic therapy, even when controlled by sensitivity tests, often loses its effect. The picture of true asthma fades into the more constant cough, dyspnoea and distress of lung failure and its attendant cor pulmonale. In spite of our lack of aetiological knowledge, every effort should be made to minimize this downhill path. This brings me to two other therapeutic measures.

Climate

It is not every asthmatic who loses his symptoms on being sent to a high and dry climate, quite apart from the fact that in practice this prescription is only possible for a very limited number of patients. We are still extremely ignorant of the effect of climate on disease. Much interesting work is being undertaken in order to determine what are the exact climatic components which adversely affect asthmatics. All that can be said is that a particular type of asthma is very common along the coastal belt in the eastern half of southern Africa, and that cases of this type are especially susceptible to weather changes as a trigger factor in provoking their symptoms. They often show great improvement on going inland. The chronic asthmatic may also greatly benefit from a winter visit to an inland centre, which may help to tide him over a

tiresome time of year and so halt the progress of his disease. For adults permanent residence inland does not always hold out the prospect of cure it is popularly supposed to.

Physiotherapy

One of the most striking physical signs in asthma is the type of breathing employed by the patient. The reasons for this are not fully understood, but there is no doubt that the asthmatic can be helped, both in the prevention and controlling of attacks, by being taught proper breathing exercises. I would underline the word 'taught', because although there are admirable directions given in several publications (notably a booklet issued by the Asthma Research Council) actual instruction at the hands of a physiotherapist experienced *and interested* in this type of work is worth far more than reading and re-reading printed instructions. The performance of any set of exercises, not only breathing exercises, is dull work, and most patients need all the help and encouragement they can be given. But the results do justify the trouble that needs to be taken. Vital capacity can be increased; postural drainage will help to keep the chest free of the accumulation of secretions; emphysema can to some extent be kept at bay; and the cooperative and determined patient can often acquire a real measure of control over his attacks. Breathing exercises give him another resource which builds up his confidence to

deal with his disease and may significantly lower his intake of anti-asthmatic drugs.

Allergy

I have purposely left a consideration of the allergic factor until the end. The investigation and handling of frank allergic factors in the production of asthma have little place in the management of the chronic asthmatic. These measures belong to the early phase of diagnosis and treatment. Nevertheless if, as I believe, every chronic asthmatic patient should be subjected to a periodic 'check-up', possible allergic factors should be considered, especially where there has been some change in the timing, type or onset of the attacks, or the patient has changed his occupation or moved to a new district or house.

SUMMARY

The management of the chronic asthmatic patient is a complex and time-consuming problem. The prognosis as measured in terms of keeping the patient active and at work is not as discouraging as many people think.

Probably the patient's greatest asset is the possession of a sympathetic practitioner with psychiatric insight.

Although by the very nature of the condition it seems unlikely that there will ever be the magic pill so ardently sought by the asthmatic, modern therapy intelligently used does offer striking relief to the majority of chronic asthmatics.