

## ALL ABOUT ASTHMA.

BY A FAMILY DOCTOR.



ANY medical men on visiting their patients walk, or stalk, into the bed-room, feel the pulse, look at the tongue, ask a few pertinent questions, make a few remarks on the weather, or the latest mystery, prescribe for you, and then retire, leaving you very much in doubt as to the nature of your malady, or the proposed plan of treatment. To this class I do *not* belong. The other class is composed of men who believe that their patients, no matter how high or how low in life, are all gifted with a little common-sense, and who therefore are not above condescending to enlighten them, not only on the pathological bearings of their case, but also on the nature and action of the remedies they propose to adopt. To this class—and I only wish

it were a larger one—I *do* belong. I like to carry my patient with me in heart and feelings, to give him an interest in his own case which he would not otherwise have, if he were not made to understand it. I hate mystery so thoroughly that I would not even write my prescriptions in Latin, did I not know that people often have faith in hard names. And faith is sometimes all the battle. Some patients might feel insulted if you prescribed bread pills and burnt sugar water; but those same pills Latinised and silvered, and that same simple draught with a dash of quina in it, will at times be all the medicine necessary in a case of imaginary illness.

Now, whatever good I have been able to accomplish in these papers may, I think, be attributed to the fact that I lay down no law without assigning a reason for it, and do my readers the credit of believing that they are just as capable of understanding the why and the wherefore of a case of illness and its treatment when explained to them as I am myself.

What is asthma? is the question that stares us in the face at the very outset. We know that the word is derived from the Greek *ἀσθμα*, meaning "I gasp for breath." But all people who suffer from shortness of breath cannot be called asthmatical, although they often are so termed through ignorance. Shortness of breath is common enough in many diseases, and it may be symptomatic of heart disease, or of pulmonary consumption itself. Asthma pure and simple may be called a fit of extreme difficulty of breathing, coming on suddenly and going off again after a few hours, but attended by no fever. Before we attempt to say a

word about its treatment, we must thoroughly understand its pathology.

There are in the body two sets of muscles—namely, those of voluntary and those of involuntary motion. The muscles of the arms are an example of the former: they are under our control. The muscular fibres in the coat of the intestinal canal are an example of the latter set. These muscular fibres are cylindrical or circular, and consequently when they contract they narrow the orifice of the canal, and their alternate contraction and relaxation result in a vermicular or worm-like motion, by which the food is propelled constantly onwards. These muscles are not under our control: they are presided over by the nerves of organic life. In a former paper I think I tried to describe the anatomy of the lungs to you. I compared the ramifications of the bronchial tubes to those of a leafless oak. "The stem or trunk of the tree," I said, "shall represent the windpipe, the larger branches the larger bronchi, the smaller the smaller, and the ultimate ramifications or twigs of the branches the intercellular passages," around which in the air-cells the blood is spread out to receive its oxygen and be purified. I also described the bronchi as lined with mucous membrane, the secretion of moisture from which enabled the lungs to get rid of dust and other foreign and deleterious substances. Now kindly bear this in mind: these bronchi or air-pipes are surrounded by muscular fibres just as the intestine is—contractile tissue, in fact, and, like that of the digestive canal, presided over by the organic nerves. Well, you know what cramp is; you have doubtless had a "touch of it" in the leg more than once. This was spasm of voluntary muscular tissue; but the *involuntary* muscular fibres in the body generally, including those that surround the bronchial tubes, are likewise subject to cramp or spasm; and this is what asthma really is—cramp in the lungs. The little tubes are narrowed by spasm, the air cannot enter, and hence the dreadful suffering for the time being. Moreover, as the natural function of the minute muscular fibres that surround the bronchi or air-tubes is, by their movements, to squeeze out the mucus which is required to keep them moist, we find in a fit of asthma, when these little muscles are fixed by spasm, there is no secretion of mucus; and the first sign that the attack is passing off is the resumption of that secretion, as known by the cough that comes on, and the expectoration.

You will now be in a position to understand me when I tell you that spasmodic asthma is entirely a nervous disease, that it depends upon the fixed contraction of those circular muscles of the air-tubes, induced by nervous action. And this leads me to call your attention to a certain nerve in the body which has a great deal to do with asthma. This nerve—there are two, one for each side of the body—is a very large and a very long one. It is called the



pneumogastric, and is a sensory-motor nerve, by which I mean that it is composed both of fibres that convey sensation and fibres that convey motion. Arising in the brain, it takes a downward course by the larynx and œsophagus, and it will be sufficient for you to know that it distributes branches to pharynx and larynx and gullet, and to the lungs, the bronchial tubes, and the stomach and liver. It is also connected with the nerves of organic life. Its duties are no less numerous than its branches. It gives sensation to the mucous membranes of the larynx, it causes the movements of the stomach, and provokes the secretion of bile from the liver, and it does a great deal more; but we have principally to do with the fact that it is the branches of this nerve which govern the actions of the circular muscular fibres of the air-tubes, and excite their spasmodic contraction in a paroxysm of asthma.

By a knowledge of the distribution of the branches of the pneumogastric nerve, we are enabled to understand the *rationale* of the different causes of an attack of asthma. It is a well-known fact that irritation of a nerve at one portion will be carried by its sensory fibres to the brain, and thence, by motor fibres, to the muscles presided over by that nerve, causing spasm or cramp in perhaps quite a different region of the body. This is said to be due to reflex action.

We see, then, how certain conditions of the atmosphere will, by irritating the mucous membrane of the larynx, or bronchial tubes, produce a fit of asthma in those predisposed to fall victims to it. Emanations from decaying vegetable matters, and from newly-mown hay, or from mustard, dust breathed into the air-passages, smoke, cold air, damp air, &c.—in fact, anything which would be apt to bring on catarrh in a healthy man—will induce a paroxysm of asthma in one subject to it. But the pneumogastric nerve also sends branches to the stomach, and hence we find that eating or drinking too much of a night, or taking food of an improper or indigestible kind, such as pork, sausages, sardines, Australian meats, beer, and stout, is another frequent cause of an asthmatic fit.

Certain feelings of the mind will also originate a fit: grief does at times, anger, disappointment, &c.

There are several things connected with asthma which are very difficult to explain. Why, for instance, should it be usually a few hours after midnight that the fit comes on, and the poor sufferer awakes suffocating? This has been attempted to be explained in this way: breathing is not altogether an automatic act; it obeys the will; but during sleep this moderating influence of will is suspended, and the continued retention of the one posture serves to encourage the coming on of a fit. I think myself, however, that we need not go so far from home for an explanation. Three or four hours after supper, when quiet in bed, would just be about the time that anything that had been eaten, and disagreed, would begin to ferment, and distend the stomach and bowels with gas, which would press on the diaphragm and hence on the lungs. About this time, too, the air of the room would just have had long enough time to be poisoned with carbonic acid gas

from the patient's own lungs, for very few asthmatics, we fear, are over-particular about the ventilation of their sleeping apartments.

It is a curious thing that the air of a town or place which suits one asthmatical patient very well, would be almost death to another. Some cannot breathe beyond the murky air of London; others cannot visit London without having a fit; and so it is with many other towns and places. Asthma is more frequent among men than among the fairer sex, probably because men are more exposed to the exciting causes of this distressing complaint.

Asthma is said by some to be periodical, but few medical men can so consider it. It comes on at intervals, it is true, but only because the patient is subjected to certain exciting causes at those periods.

The smell from certain drugs—notably ipecacuanha—will induce a fit in many people, which proves how very easily excited to reflex nervous action the pneumogastric nerves of those people must be, when the simple smell of ipecacuanha will originate a paroxysm of asthma, since it takes the inhalation of a considerable quantity of the powder of the same drug, to produce contraction in the lungs of a healthy man.

Some people will have a fit of asthma directly if they come in contact with a cat, or if poor pussy is anywhere near them. Others there are who dare not approach anywhere near a horse, or it may be an ox, or sheep, a hare, or even a dog. You see, therefore, that asthma is a most capricious disorder.

I am happy to be able to tell my readers (1) that, however distressing a fit of asthma is, it is never directly fatal; (2) that the subjects of it may, and often do, live to a good old age; and (3) that asthma sometimes actually goes away of its own accord, and never comes back.

It is only too apt, however, to be associated with, or even to produce, other diseases, such as emphysema and heart disease; but there! I must not frighten you—I would much rather give you hope.

The symptoms of a fit of pure asthma are almost too well known to require detail. There are generally certain warnings given the patient. He usually knows when it is coming; he may feel dull: have a headache, with loss of appetite, chilliness, and drowsiness; but it may come on without any warning. Then, about two or three hours after midnight, he is awakened with a feeling of suffocation; he is obliged to get up, and seek for fresh air by door or window, whether it be winter or summer. His whole appearance is now very distressing and alarming to his friends: the staring eyes, the anxious and probably flushed face, the laboured breathing and wheezing breath, and the cold and clammy skin, make up a picture that, once seen, will never be forgotten. After a certain time, or rather an uncertain time, cough comes on with expectoration, and by-and-by the sufferer sinks to sleep, and probably awakes after a few hours, refreshed and well.

In the interval of time that elapses between one fit and another, the patient will often enjoy comparatively



good health, and be free from disease of all sort, unless perhaps a little hacking cough.

And now that we have traced the symptoms, inquired into the causes, and tried to explain the pathology of asthma, we shall be better able to lay down a plan of treatment.

This treatment, of course, must bear reference to the relief of the fit, and also to the prevention of a recurrence of the paroxysm by proper treatment in the intervals. In the fit we must try to remove the exciting cause, and relieve the spasm. If it has been induced by over-eating or drinking—by a loaded stomach, in fact—an emetic will often afford the quickest relief. For the relief of the spasm or cramp of the bronchial muscles, so many remedies keep crowding into my memory that I hardly know which to mention first. Unluckily, what will relieve one man may utterly fail with another. Now, there is stramonium, for instance, an old-fashioned remedy but a very good one. It often acts like a positive charm. It is simply cut up like tobacco, and smoked, and I know dozens of people at this moment who would not be without it in their bed-rooms for all the world. I do not think there are any evil after-effects from the use of this drug, only it must be used *at the very commencement of an attack*. If you try it, be sure to get the very best.

Then there are cigars you can get from any chemist, called Tatula, or Datura Tatula cigars—one or two whiffs of which will often cut short an attack.

Now, there is another simple remedy which you can always have at hand. Get several pieces of strong brown paper, about as large as those that are so inviting but so fatal to flies. Steep them in a strong solution of nitre, dry them, and set aside for use. When one of these is ignited, and allowed to smoulder slowly away in a patient's room, the relief obtained is often most remarkable.

Well, there is strong coffee: that will often give relief; so will brandy, but I am chary in recommending it. Iodide of potassium may be tried in doses of from ten to twenty grains, according to the size and strength of the constitution. It is given in sal volatile and a little spirits of ether. Consult your own medical man before you try this, however.

Tobacco does good in a few cases; so does the inhalation of a mixture of chloroform and ether: this, though, must be used with great caution.

The treatment of an asthmatic patient in the intervals is of great importance.

Parties who work in coal-mines, inhaling smoke and deleterious gases, stone-masons, cotton-millers, and knife-grinders, ought to wear a suitable respirator, and in these cases, where there is generally a tendency to phthisis (consumption), great care of the general health should be taken, and cod-liver oil, with tonic medicines, does great good. Sometimes much benefit will accrue, if the digestion be weak, from using a mixture of dilute nitro-hydrochloric acid in some bitter infusion taken before each meal.

The iodide of potassium mixture, which any chemist can make you, often does immense good. So do tonic doses of the liquor arsenicalis, properly administered.

But probably the greatest benefit will be derived from studious attention to the general health. Regularity in living, and temperance in eating and drinking, must positively be insisted on, if you would have any hopes of an ultimate cure. The food ought to be of the most digestible kinds that can be procured. Never over-eat, and especially avoid large or late suppers.

Taking tonics—an occasional course—such as iron and quinine, or bitter infusions, will often be found advantageous; and if ever there be any constipation, a mild aperient pill—rhubarb, for instance—may be taken at bedtime.

If you can manage it, change of air ought to be tried, and the asthmatic patient should choose for his permanent residence that place which seems best to suit his constitution; and so the enemy may be baffled and kept at bay.

The last remedy I have to mention—last, but far from least—is the shower-bath. Not only does it act as a tonic to the nerves, and brace up the whole system, but it inures the body to cold and sudden changes of temperature. It ought to be commenced tepid, and the temperature gradually reduced to cold. The good accomplished by the sedulous use of the shower-bath in cases of asthma is positively becoming proverbial.

