

## EDITORIAL : VAN DIE REDAKSIE

## WORLD ASTHMA CONFERENCE

Surveys carried out in countries as far apart as Great Britain, North America and India, have shown that asthma is probably a far commoner condition than has been realized in the past. In Britain it is estimated that on any day of the week not less than 1% of the population is disabled, if only temporarily, by asthma, causing not only a vast wastage of man-hours, but more important, inflicting a tremendous amount of suffering and anxiety on a large number of people. Possibly considerations such as these prompted the Chest and Heart Association to organize the World Asthma Conference which was held in Britain earlier this year.

Curiously enough, although every doctor knows what the term asthma signifies, it is a difficult condition to define in precise scientific terms; and the position is not helped by the fact that members of the medical profession and their patients are apt to hedge from making a firm diagnosis. As one speaker put it: 'Asthma is not a disease but a pattern of behaviour.' And perhaps one of the striking impressions carried away from this Conference was that practitioners and research workers are no longer looking for a single cause for asthma, nor is there any sign of a specific cure. Certainly those who came seeking a magic pill went away empty handed. The same speaker really put the whole matter in a nutshell when he went on to point out that: 'The symptoms of asthma are due to an exaggeration of normal reflexes in a group of people who are over-responsive to environmental stimuli.' Nevertheless such exaggerations, if they recur sufficiently often, can lead to pathological changes. If the symptoms can be halted reasonably early in their career, the pathological changes may be reversed. Perhaps we should talk of asthma as being reversible rather than curable.

In an outstanding paper which was read at the opening session of the Conference, Dunnill gave a masterly account of the pathology of asthma. Curschmann's spirals are known to every medical student. What is not so generally realized is that in the asthmatic state many bronchi become denuded of their vital superficial columnar cells. This is probably brought about not so much by contraction of the bronchial muscles as by the transudation of a protein-laden exudate across the delicate mucosa. After a severe or prolonged attack of asthma this denudation process may be extreme, leaving the bronchial tree bare and singularly unprotected so that the patient may easily fall victim to an infection which, under normal conditions, would do little harm. Pathologically the outstanding feature of the asthmatic lung is the failure to clear the bronchi of their secretions. This is due to the combination of three factors: the excessive production of bronchial secretions, the glairy quality of the mucus itself and the loss of ciliary action in the bronchial mucous membrane. Forgetting these simple facts may easily cost the severely ill asthmatic his life.

For centuries climatic factors and speculations have coloured the asthmatic picture. It has often been difficult

to gauge the scientific value of the many claims which have been made. A change of climate often implies a change of total environment, and this may have a profound psychological effect. In South Africa it has been recognized for some time that in patients in whom asthma has been preceded by vasomotor rhinitis, climatic conditions, and particularly the sudden changes which are so common, are connected with exacerbations of the disease. It was therefore particularly interesting to hear about work which has been carried out by Solco Tromp at the Biometeorological Research Centre in Leiden. In brief he has been able to show that there is a difference in response to cooling in many asthmatics compared with controls. In these patients, the temperature drop after cooling the hands was shown to be greater than in normal subjects. After an initial rise of temperature the rewarming curve in the asthmatics is irregular and remains far below its initial level. Tromp started treating these patients by subjecting them to artificial high altitude conditions in a special pressure chamber. He found that he could change many of these abnormal rewarming curves to a much more normal pattern, and that when this happened the patients' symptoms were equally improved. He also showed that while under treatment the excretion of 7-ketosteroids, which is usually below normal in asthmatics, increased considerably, suggesting that thermo-regulation efficiency and adrenal function are closely related.

A great deal of active research is being carried out in an attempt to solve the many biochemical problems connected with such states as anaphylactic shock, with the actual roles played by such substances as SRS-A and bradykinin, with the incidence and significance of auto-antibodies, and in fact all those reactions which go to make up an immunological response. If at the present time this work has not produced any striking results from the standpoint of treatment, they are none the less important because their solution may lead to a better understanding of the cellular pathology of asthma. Hippocrates recognized the importance of the psyche in asthma. The fact that the psychological aspects of asthma were only superficially covered at this Conference perhaps reflects on the inadequate state of our knowledge at present. Unfortunately inadequate research in this field has left many questions unanswered which might have been elucidated if rigorous scientific methods had been applied. It was therefore disappointing that two of the main papers read in this section dealt largely with the use of auto-hypnosis in treatment.

No conference has yet solved the problem of allowing sufficient time for the useful discussions which often develop. Lively group discussions, which would have been of particular value when dealing with the psychological aspects of asthma, were stillborn because the Conference schedule was too tight and allowed too much overlapping where important and interesting topics were being presented.

It was interesting and heartening to hear that those who are interested in treating asthma are beginning to realize the vital importance of relaxation as a definite therapeutic technique. Whether a patient can help himself by auto-hypnotherapy is debatable, but all asthmatics, including quite young children, can learn the art of relaxation which they can then apply for themselves.

Simple tests of lung function which will give meaningful information can now be carried out by the general practitioner in the patient's own home. Such tests have become increasingly important because they can reveal objectively if there is a reversal of bronchial obstruction as the result of specific treatment. Patients often feel tremendous subjective relief and report a great improvement in their breathing after an injection of adrenalin or aminophyllin. But simple measurements of respiratory function may show that in fact there has often been no change at all, although clinically the acute asthmatic state has been relieved.

Professor Groen shocked many members of his audience when he stated that it is not the asthma which causes the wheeze, but the wheeze which causes the asthma. We need to know a great deal more about the components of the acute attack of asthma, and it seems that pulmonary

function tests will prove of great value in solving some of these problems. Their use in checking the effectiveness of any treatment, whether medicinal, physiotherapeutic or psychological, is highly necessary.

There was hardly a paper read at this Conference which did not mention the asthmatic child, and one realized that in some countries there is a very wide therapeutic armament available for these patients. There were accounts of special clinics, special schools and so on, as well as more clinical papers and discussions on the special difficulties in diagnosing and treating infants and younger children. Asthma can start very early in life and its management usually taxes our resources, our skills and our understanding. The platitude: 'Don't worry, he will grow out of it,' is still too often used, either as a cloak for our ignorance or for our unwillingness to be fully involved in the care of these patients. Nevertheless, time is more often than not on the side of the child and informed optimism is justified in most cases.

Doctors and the considerable body of auxiliary workers who are concerned with the welfare of asthmatic patients will find much that is worth reading and digesting in the Transactions of the World Asthma Conference which has recently been published as a book.

## NEUROENDOKRINOLOGIE EN VOORTPLANTING IN DIE MENS

Bewyse neem toe dat die menslike voortplanting op 'n intieme newewerking tussen die senuwee- en endokriene stelsels berus. Hierdie begrip van die dubbelwerkende beheer oor reproduksie by die mens, wat berus op uitgebreide laboratoriumtoets op diere, is teenstrydig met vroeëre opvattinge wat hierdie beheer aan die uitsluitlike werking van óf die senustelsel óf hormone toegeskryf het. Tot dusver is daar nog min direkte navorsing op mense uitgevoer en dit kan op die oomblik nog nie aangevoer word dat neuroendokrinologie as 'n aparte begrip bestaan nie. Baie van die teorieë oor mense berus op ekstrapolasie uit gegewens wat van diere verkry is. Nietemin verklaar die begrip van newewerkende beheer baie mediese verstorings, bv. skynswangerskap, die ontwrigte ritme van menstruale siklusse wat lugwaardinne ondervind en sekere manifestasies van homoseksualiteit.

'n Verslag van die WGO Wetenskaplike Groep oor neuroendokrinologie en reproduksie in die mens' gee 'n oorsig van die jongste begrippe oor psigosomatiese faktore, die hipotalamus—hipofisesisteam, geslagsritme, senuwee en hormonale uitwerking op die hipotalamus en die uitwerking van geneesmiddels.

Een van die belangrikste ontdekkings wat voortgevloei het uit die neuroendokrinologiese navorsing is dat die blootstelling van die ontwikkelende senustelsel aan sekere hormone en geneesmiddels gedurende die voor- en nageboorte-tydperk, in diere, abnormale uitwerkings op die volwasse geslagsbedrywigheid en gedrag kan toon sonder dat daar newewerkende, maklik waarneembare, fisieke tekens van die abnormaliteit is. As sekere kalmeermiddels en geslagshormone aan diere toegedien word gedurende 'n kritieke stadium in hul vroeë lewens, mag dit 'n sloerende uitwerking toon op geslagsritme, en die Wetenskaplike Groep waarsku teen die gebruik gedurende swangerskap of die tydperk onmiddellik daarna van geslagshormone en bynierafskeidings en geneesmiddels wat op die sentrale senustelsel inwerk.

Bevrugting-voorkomende tablette wat deur vroue gebruik word, mag hul uitwerking op die neuroendokrinologiese vlak toon. Die verkryging van 'n antigonadotrofiese bestanddeel (malatonin) uit ekstrakte van die pineale klier bied die moontlikheid aan van 'n nie-steroïede biologiese bestanddeel wat fertiliteit sal kan beheer.