Paediatrica Indonesiana 23 : 118 — 122. May — June 1983

CASE REPORT

Asthma and Emotional Factor

by

JUSUF RUKMAN, I. BOEDIMAN and NASTITI N. RAHAYU

(From the Department of Child Health, Medical School, University of Indonesia, Jakarta)

Abstract

The case of boy of 12 years old suffering from recurrent asthmatic attacks has been reported.

Treatment with several antiasthmatic drugs and acupuncture did not prevent recurrency.

Psychiatric examination revealed an immature personality and anxiety state. Combined management consisting of medicaments, psychotherapy and parental counceling gave complete improvement.

Received 12th January 1982.

Introduction

It is known that there are variations in the pathophysiology of asthma. Among others the immunologic and psychologic aspects of the disorder, which have also different ways in precipitating the occurrence of the attacks (William and Mc. Nichol, 1975). While most authors have written about the immunological aspect of asthmatic disease, review of the literature concerning emotional disorders is limited.

As we know the pathophysiology of the immunological disorder of asthma is an antigen-antibody reaction type I and type III which in turn influences the hyperreactive bronchus. The non immunologic factor or psychologic factor influences the vulnerable bronchial hyperreactivity through sympathetic and parasympathetic nerves (Dickson, 1973). The parasympathetic supply is through the vagus nerve, which contains both afferent fibres arise from lung sensory receptors situated in the bronchial mucosa. The efferent fibres are cholinergic. Their stimulation leads to bronchoconstriction. The sympathetic nerve system exerts its effect through the release of catecholamines, which act on two kinds of receptors.

They are beta-receptors, stimulations of which leads to bronchoconstriction. So, anything that upsets the balance between the two systems will clearly affect the bronchial tone. This balance will be partly under influence of higher centre or psyche. And it is well known that emotional stress can undoubtedly cause an increase or decrease in bronchial tone, mediated through limbic-hypothalamic pathways that reaches the autonomic system.

The major emotional states, acting as precipitants, are those of anger, anxiety and worry, sadness and depression, excitement, pleasure or unpleasure state (Mattson, 1975).

Parental attitudes that might influence the emotional status of the asthmatic child vary from rejection to overprotection (William and Mc. Nichol, 1975). While the family situation was unsatisfactory namely less of stability, warmth affection and encouragement.

Case report

An Indonesian boy, 12 years old, was treated at the Department of Child Health, Dr. Ciptomangunkusumo General Hospital since early 1975, with the diagnosis of asthma. He started to suffer from this disease since the age of eight. His younger brother and his grandfather suffer also from the same disease. The asthmatic attacks particularly emerged in climate changes, bad odor smell or emotional problem such as conflict with his brother, difficulties in his study or when his parents get angry with him.

First at the outpatient clinic, three series of acupuncture therapy were performed the results were unfavourable. In 1976 the attacks became more frequent and even dyspnea existed almost daily, even though the asthma drug was despite the maintenance administra-

tion of corticosteroid supplemented asthma drugs.

Sodium cromoglycate was then given for one month, but even during the administration of this drug the patient still got attacks. On the mid of 1976, he was hospitalized for status asthmaticus. During this hospitalization he got more frequent attack, especially when his mother was not present or came too late to see him. Physical examination were normal, except for the symptoms of asthma. Chest X-ray showed no abnormality. It was then thought that psychological factors might play a role. So, the patient was consulted to the psychiatric department.

Psychiatric examinations revealed that the patient had an immature personality and suffered from anxiety. His mother was overprotective, while his father gave no affection. Besides, there was a misunderstanding between the patient and his brother concerning the mothers attitudes, as if the mothers attention was only given to the patient.

All these conditions might influence the emotional status of the patient, which would in turn lead to the initiation of the asthmatic attacks.

The following management were a combination between medicaments and psychotherapy to the patient and parental councelling. The patient was discharged with clinically complete improvement.

On follow up examination in the outpatient clinic, the lung function test using dry spirometry was performed.

The result was FEV-1 1550 ml and MEFR 95 L/m. To confirm that no immunological disorder play a role in this patient, the allergic prick test were performed with all available material and the results were entirely negative. Unfortunately serum IgE and provocation test were not done. Up to early 1977 he had been hospitalized five ti mes for status asthmaticus and discharged in clinically well condition, while the combination therapy were still continued.

Observation until the end of 1978 showed a gradual decrease of the attacks.

Discussion

For a long time there was considerable controversy between allergists and psychiatrists about the causative role of emotional factors in bronchial asthma (Mattson, 1975). By now, most allergists, pediatricians and psychiatrists have accepted that childhood asthma das a multicausal etiology, which holds that hereditary, allergic, infectious and psychologic factors independently or in combination assume etiologic factors.

At the beginning our patient had been treated as having immunological disorder. High doses of corticosteroid and sodium cromoglycate had been given in treating this patient, but there was no improvement. Alloanamnesis and observations in the ward, suggested that no immunological disorder play a role in this patient.

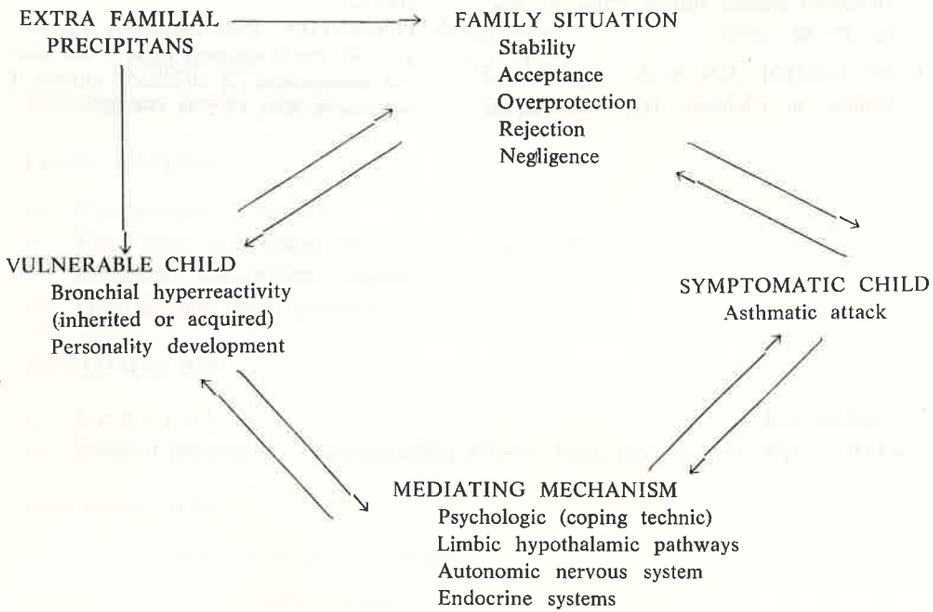
The psychiatrist confirmed that the patient had an immature personality,

anxiety, lack of self confidence and the family interaction showed also some disturbances. Allergic prick test were performed, which gave negative result.

It was then concluded that the pathophysiology of this patient was of psychological origin.

This patient could be classified as suffering from severe asthma, and had some emotional disturbances, shown as anxiety and lack of self confidence. This finding is similar with Pinkerton's report (1967) that there was a significant correlation between behaviour disturbances and severe airways obstruction, while Mc. Nichol et al. (1973) showed that behaviour disturbances only occurred in severe asthma. We don't know exactly whether the emotional disturbance emerged after he had suffered from severe asthma or had it existed at the same moment. In other words we cannot confirm whether this emotional disturbance emerged after he had suffered from severe asthma or existed at the same moment. In other words

FIG. 1 : *Open system model of childhood asthma (Adapted from Mattson, A,: Psychological aspects of childhod asthma, Pediatr. Clin. of North Am., 22 : 80, 1975).*



we cannot confirm whether this emotional disturbance was a secondary or primary abnormality.

In the family life of the patient we have found that his mother was over protective and his father gave no attention to the patient.

This situation can be plotted on "the open system model of childhood asthma" (Mattson, 1975; See fig 1). The

vulnerable child, (bronchial hyperreactivity) through mediating mechanism (psychologic, limbic-hypothalamic pathways, etc) might cause the child to precipitate the symptom (asthmatic attack) that is also triggered by intra or extra familial condition. The frequent symptoms in turn would influence parental attitudes (stability, acceptance, over protection, rejection, etc). Anyhow, we don't know which one was the origin of the disturbance.

In conclusion a multi disciplinary management is very important to be considered in the treatment of recurrent asthmatic attacks.

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