EVALUATION OF IMMUNOGLOBULINS IN SERA OF PATIENTS WITH BRONCHIAL ASTHMA

THESIS

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The Master Degree Of Chest

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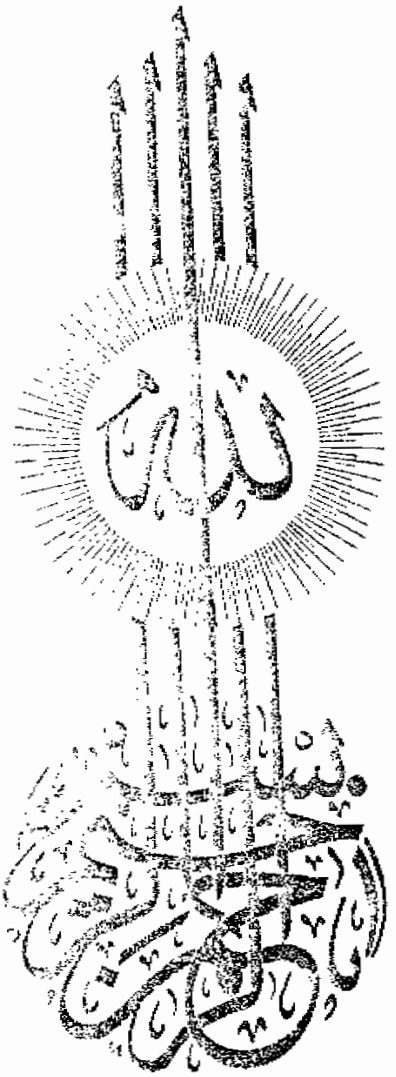

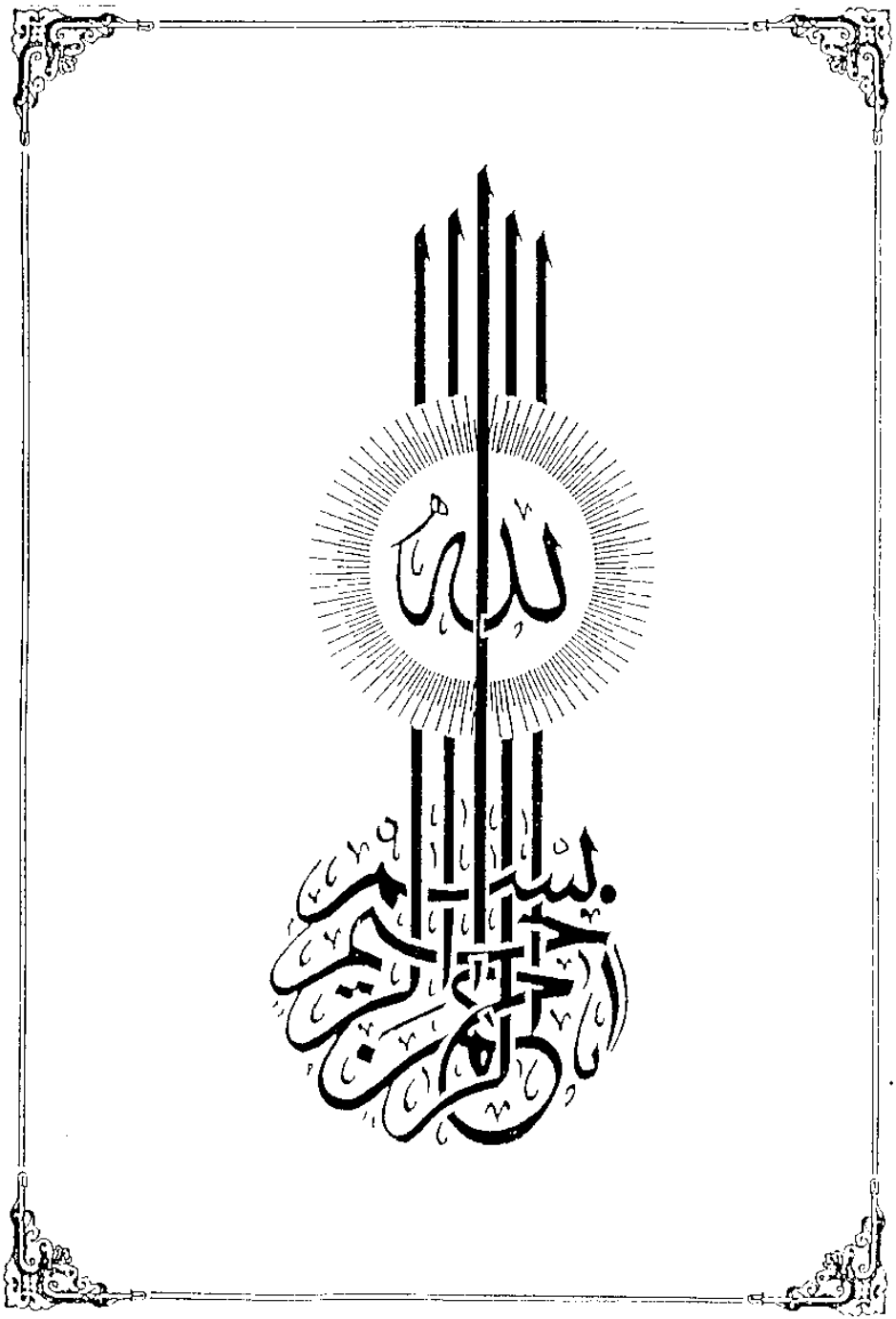

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C O N T E N T S

INTRODUCTION

I N T R O D U C T I O N

Asthma is a difficult problem (Scadding, 1976), but more difficult is to try to postulate a common mechanism for its pathogenesis which is very intricate and complicated (Corrao , 1980) .

There are many reasons to suggest that immunologic mechanisms are of major importance in the pathogenesis of asthma :

1. Serum histamine levels are elevated during asthmatic attacks (Siraganian and Hook, 1983) .
2. The release of histamine in many forms of asthma can be prevented by disodium cromoglycate, a drug known to inhibit mast cell degranulation (Bundgaard et al.,1982).
3. Corticosteroids provide a considerable improvement nearly in all cases of asthma whether atopic or non-atopic (Turner Warwick, 1981) .
4. All forms of extrinsic asthma whether atopic or non-atopic are characterized by involvement of antibodies (Orgel et al., 1975 ; Bryant et al., 1975) .

Thus, it appears that immunologic factors are much involved directly or indirectly in the pathogenesis of asthma. However, this should not ovelook the role of other non-immunologic factors e.g. deranged autonomic nervous control (Brocklehurst,

1976), and the fact that no specific immunologic pattern has been described so far to underly the so-called cryptogenic asthma .

On the other hand, heridity of the atopic diseases was from the very beginning, a major characteristic feature (Marsh and Bias , 1978) . Although mapping out the rules of this heridity has met difficulties and a clear picture has not been achieved so far (Bendixen , 1981) .

The major histocompatibility complex in man, the human leucocyte antigen (HLA) system, has been correlated with various internal medical diseases and the field is expanding (Dausset and Contu , 1980) .

The discovery of genes closely related to the HLA system and controlling various aspects of the immune response (the Ir genes) in man has revolutionized genetic studies of human atopic allergies (Mc Devitt and Bodmer, 1974) . Many internal medical disease with probable immunopathogenesis have been found to be associated with HLA types e.g. connective tissue diseases, chronic active hepatitis, Grave's disease , Myasthenia gravis, Coeliac disease, and dermatitis herpetiformis (Mackey and Morris, 1972; Safwenberg et al., 1973; Van Hoofe et al., 1974 and Dausset, 1981) .

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The aim of the present work is to explore the rule of immunoglobulins in atopic and non-atopic asthma in Egyptian patients .

REVIEW OF LITERATURE

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Bronchial Asthma

Definition :

Bronchial asthma is a tendency to transient attacks of dyspnea by bronchial obstruction occurring at any time of the day or night, but most usually in the evening, night , and early morning . The bronchial obstruction may be brought by oedema of the mucosa, spasm of the bronchial muscle, mucus secreted into the bronchial lumen, or by a combination of these three factors (Herxheimer, 1975) .

Asthma has been also defined as a disease characterized by wide variations over short periods of time in resistance to flow in the airways of the lungs . The increase in resistance to airway may be related to exposure to environmental factors especially inhaled substances or may occur without an apparent cause . Among the detectable factors are specific antigen antibody reactions usually to inhaled antigens, hyperreactivity to various physical and chemical stimuli and exercise . The resistance will decrease in response to the bronchodilator drugs and the corticosteroids (Scadding , 1976) .

Although the attacks of asthma are characteristically intermittent and reversible, it may become persistent with only minor variations . The diagnosis in this case will be made by indirect evidence that wide variability has been present in the past and confirmed by later observation of the clinical course including the response to treatment (Scadding , 1976) .

The definition did not include any statement regarding aetiology, host characteristics, immunological or neurological mechanisms since triggering factors are numerous and target responses are variable (Turner Warwick, 1972) .

In terms of function , it can be regarded as a state of airway obstruction, rather than a disease and that being dynamic and reversible, can be treated (Turner Warwick , 1978) .

Although major advances have been made in the recent years to clarify the immunopharmacology and the pathophysiology of asthma , it appears that no precise definition has been agreed upon (Corrao , 1980) .

Classification and clinical types :

It has been long recognized that asthmatic population could be separated into two main categories, namely extrinsic, in which a recognizable external allergen in the environment initiates the attack, and intrinsic, in which no external allergens are recognized (Rackemann , 1947) .

Since most of the extrinsic asthmatics have an atopic background, the term atopic asthma has been preferred by many authors (Rose et al., 1978) .

Clinical differences between atopic and non-atopic asthma (obtained from Fuchs , 1982) are illustrated in the following table :