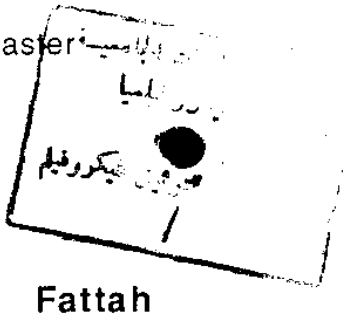
ACUTE PHASE PROTEINS IN CHILDREN WITH BRONCHIAL ASTHMA

Thesis

Submitted in partial fulfilment of the Master

Degree of **Pediatrics**



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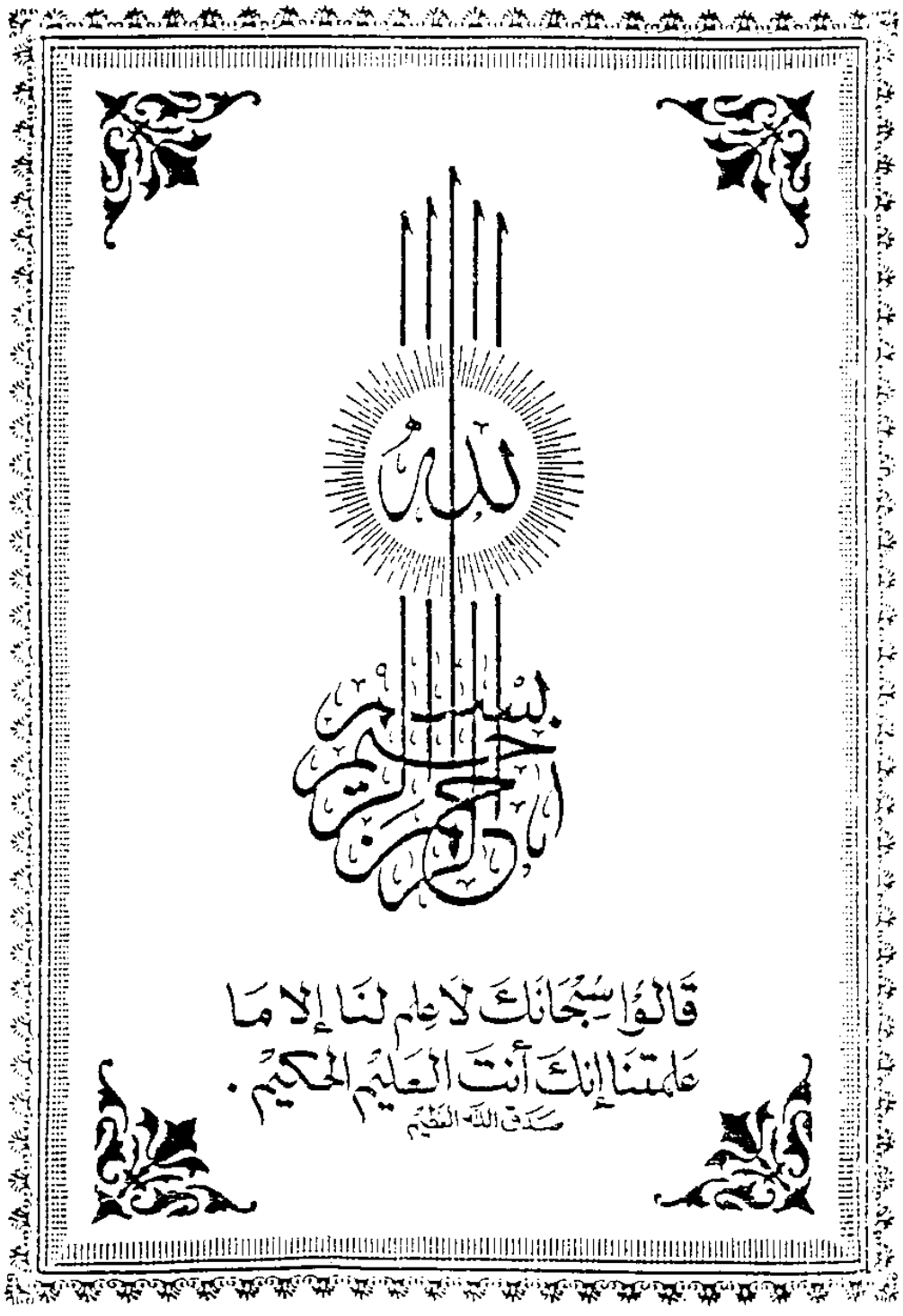

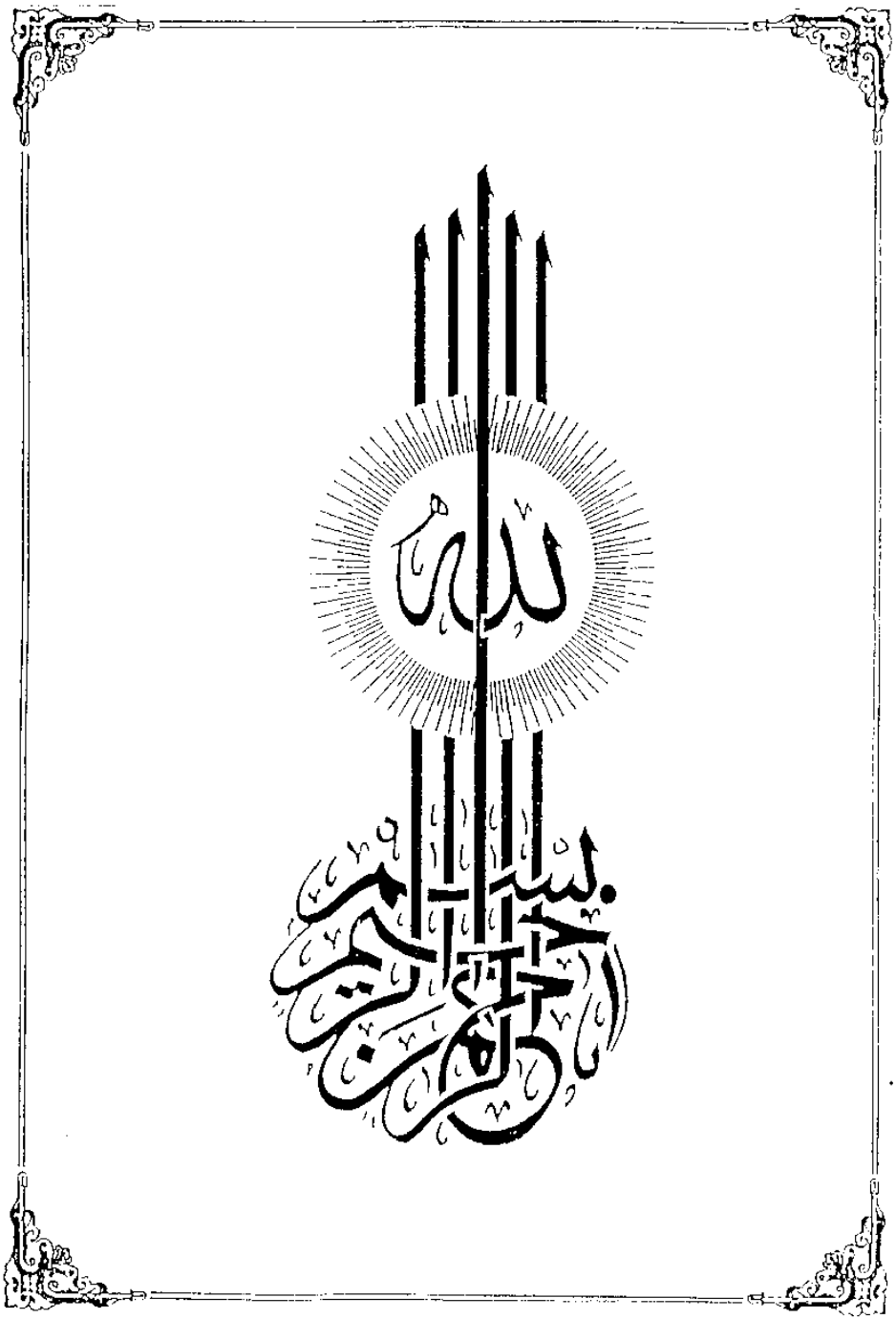

TO MY FAMILY

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LIST OF ABBREVIATIONS

α_1-AT	= Alpha-1- antitrypsin
A.P.Ps	= Acute phase proteins.
B.A.	= Bronchial asthma.
C.R.P	= C-reactive protein.
Cp	= Ceruloplasmin.
E.I.A	= Exercise induced asthma.
F.E.V_1	= Forced expiratory volume in 1 second
F.V.C	= Forced vital capacity.
$FEF_{25\%-75\%}$	= Forced expiratory flow between 25% and 75% of vital capacity..
HG	= Haptoglobin.
IL	= Interleukin.
LT	= Leukotriene(s).
NANC	= Non adrenergic non cholinergic.
O.D.	= Optical density.
P.A.F	= Platelet activating factor.
PG	= Prostaglandin(s).
SAA	= Serum amyloid A.
SAP	= Serum amyloid P.
SLE	= Systemic lupus erythematosus.
SR	= Sedimentation rate.

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INTRODUCTION

Wheezing respiratory illness and asthma are responsible for a significant proportion of both acute and chronic illness in childhood (**Bierman and Pearlman, 1990**).

Bronchial asthma might be described as a paroxysmal or periodic functional impairment of respiration manifested against a background of usually progressive hyperreactivity of the airways. It is a complex syndrome, which may be acute or chronic, monocausal or multicausal, and which may occur either in isolation or in association with other syndromes, seasonally or all year around, and may be either reversible or irriversible (**Broberger et al., 1986**).

Affecting approximately 5 % to 10 % of children (**Bierman and Pearlman, 1990**), asthma is of growing concern because of an apparent increase in mortality and morbidity (**Burney, 1992**).

Acute phase proteins are proteins manufactured by the hepatocytes of the liver. During infections, after trauma or in the presence of malignancy, the hepatocytes of the liver are stimulated to synthesize acute phase proteins such as fibrinogen, alpha1-antitrypsin or C-reactive protein. These proteins have a number of protective roles when there is

inflammation or tissue damage and protease enzymes are being released (Wardle, 1992).

Aim of the work :

Evaluation of acute phase proteins may be useful as a possible diagnostic tool in the diagnostic work-up in cases of bronchial asthma. Their estimation may prove to be of value in indicating cases with an underlying infectious etiology or tissue breakdown.

REVIEW OF LITERATURE

BRONCHIAL ASTHMA (B.A.)

Definition of B.A. :

Asthma is the most common form of long term respiratory disease of childhood **(Morgan and Martinez, 1992)**.

Acute reversible episodes of breathlessness and wheezing are readily recognized as asthma. In contrast, isolated cough, isolated breathlessness, chest discomfort after exertion, may not be recognized as manifestations of variable airflow obstruction **(Dolovich and Hargreave, 1981)**.

Wheezing respiratory illness and asthma are responsible for a significant proportion of both acute and chronic illness in childhood **(Bierman and Pearlman, 1990)**. Affecting approximately 5% to 10% of children **(Bierman and Pearlman, 1990)**, asthma is of growing concern because of an apparent increase in mortality and morbidity **(Burney, 1992)**.

Asthma might be also described as a paroxysmal or periodic functional impairment of respiration, manifested against a background of usually progressive hyperreactivity of the airways. It is a complex syndrome, which may be acute or chronic, monocausal or multicausal and which may occur either in isolation or in association with other syndromes,