SAFETY AND EFFICACY OF THEOPHYLLINE IN TREATMENT OF CHILDHOOD ASTHMA

A Thesis

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Master Degree in Pediatrics

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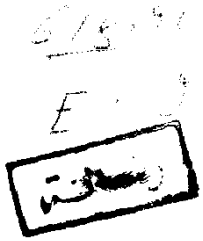

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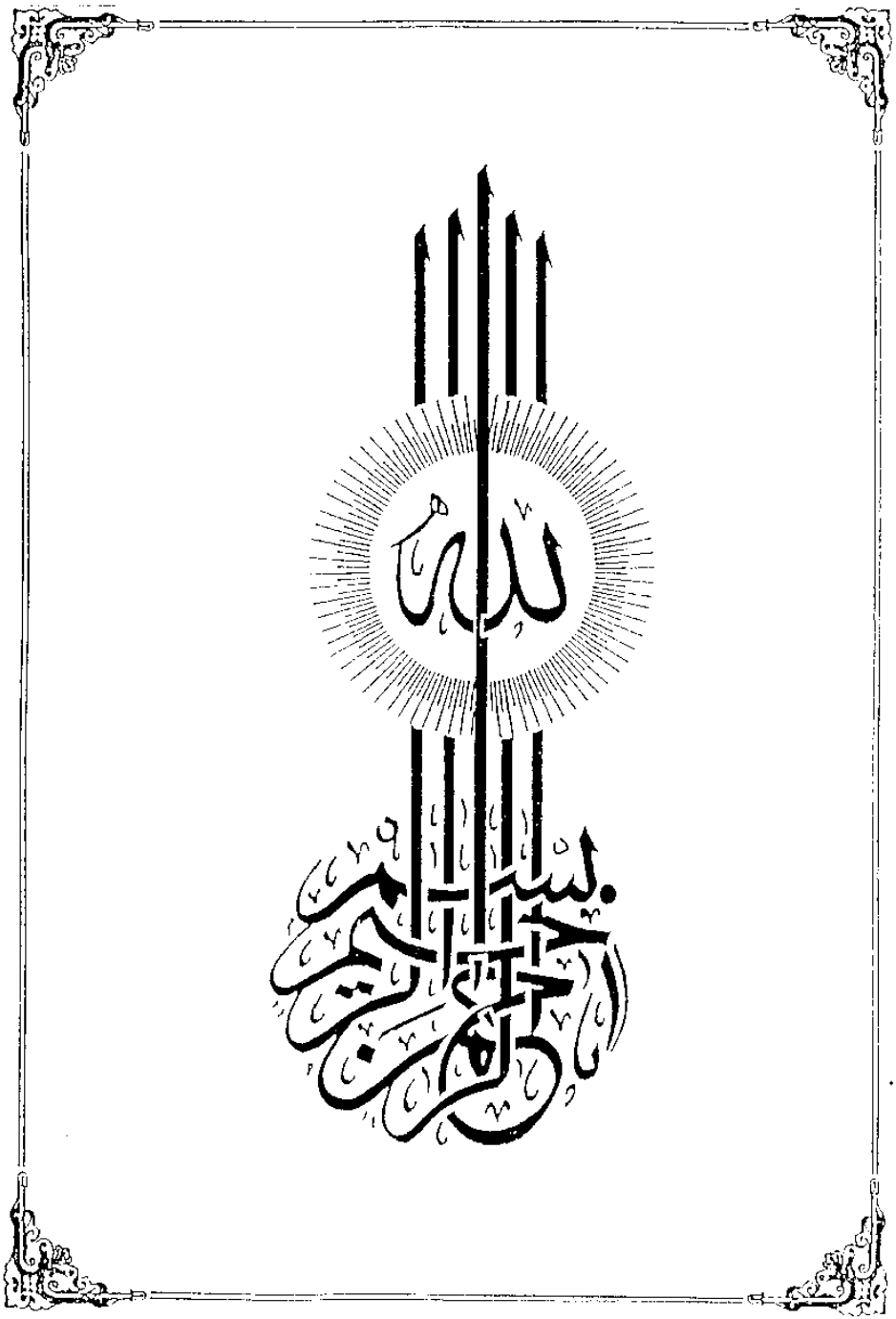

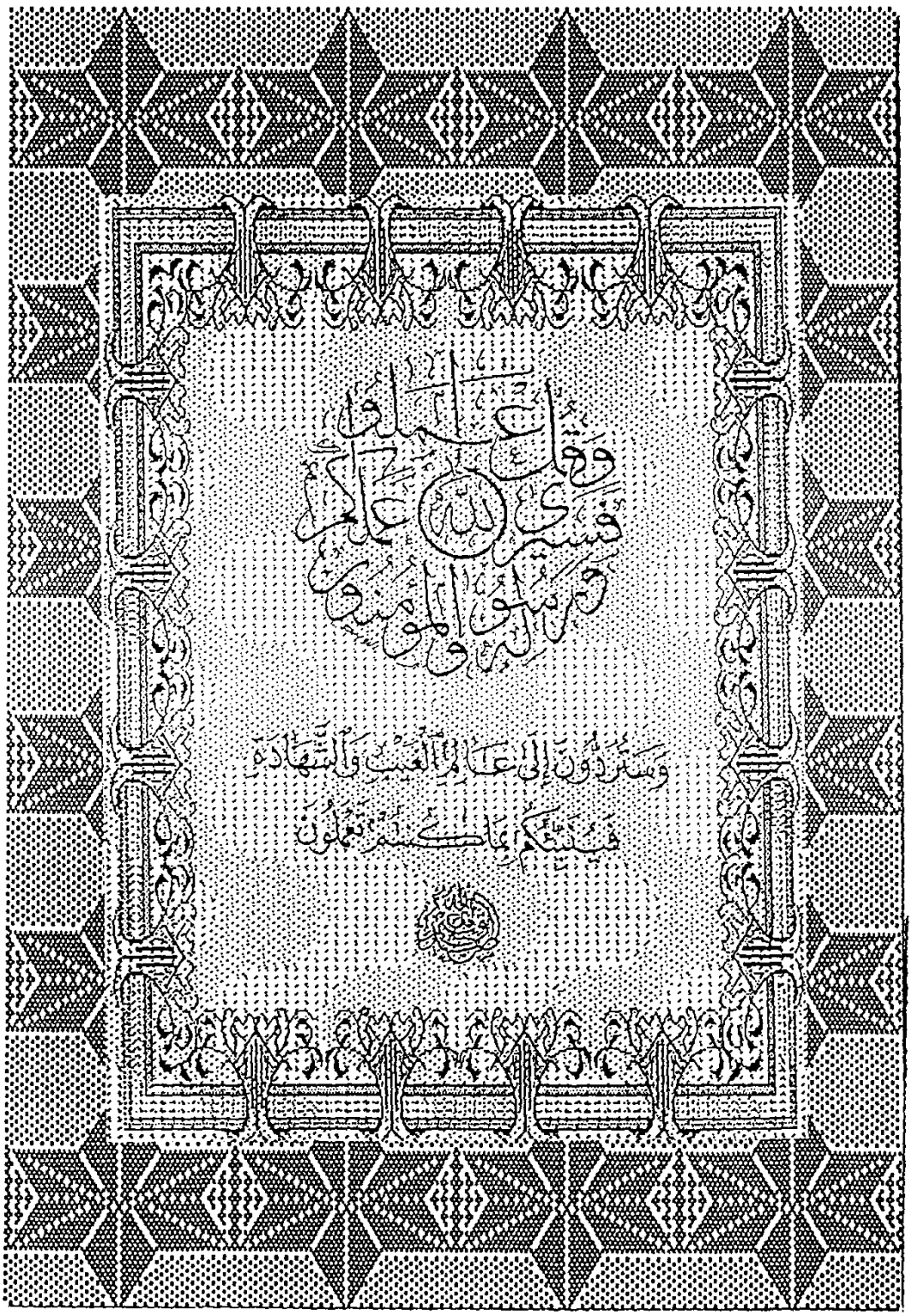

سوره التوبة (اية ١٠٥)

"To those who believed in me, and those who didn't,
the first provided me with love and support,
the later gave me the motive and power
to accomplish this work"

And last but not least

To my Parents

with all the love in the world

To my Beloved Husband

for his patience and encouragement

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Eman Salem.

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LIST OF ABBREVIATIONS

ATP	Adenosine triphosphate
BHR	Bronchial hyperresponsiveness
BLS	Borderline significance
C-AMP	Cyclic adenosine monophosphate
CNS	Central nervous system
CO_2	Carbon dioxide
COPD	Chronic obstructive pulmonary disease
F	Female
FEV	Forced expiratory volume
FVC	Forced vital capacity
GIT	Gastro-intestinal tract
IgE	Immunoglobulin E
K^+	Pottasium
Lts	Leukotriens
M	Male
NS	Not significant
PAF	Platlet activating factor
PEFR	Peak expiratory flow rate
PRIST	Paper radio immuno sorbent test
RAST	Radioallergosorbent test
RC	Respiratory centre
SD	Standard deviation
STC	Serum theophylline concentration.
TLC	Total leucocytic count
VC	Vital capacity

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Bronchial asthma is the most common lung disease in children and one of the leading causes of emergency room visits and hospital admissions. Acute episodes of asthma disrupt the lives of children at home and at school (Hill, 1989).

Asthma is a condition characterized by acute attacks of shortness of breath and wheezing associated with at least partially reversible airway obstruction (Bierman and Pearlman, 1990). This airway obstruction is believed to be caused by allergic inflammation leading to mucosal infiltration and edema with mucus hypersecretion combined with either primary or secondary smooth muscle hypertrophy and bronchial hyperactivity (Godfrey, 1990).

The availability of more and better medications for asthma contrasts with the reports of an increasing frequency of hospitalization and fatalities (Weinberger, 1989).

Theophylline, the well known bronchodilator, despite its potential for causing GIT and CNS side effects, is still the major drug used in the acute care setting, its major use is in daily continuous prophylaxis against events triggered by either allergic or

continuous prophylaxis against events triggered by either allergic or non-allergic factors (Rooklin, 1989).

Theophylline is one of the various xanthine bronchodilators. It is one of the alkaloids that occur naturally in plants, e.g. coffee, tea, cocoa. Chemical structure shows that theophylline is methylated xanthine derivative (El-Hawary et al 1988).