PLASMA RENIN ACTIVITY IN CONGESTIVE HEART FAILURE IN PEDIATRIC AGE

Thesis
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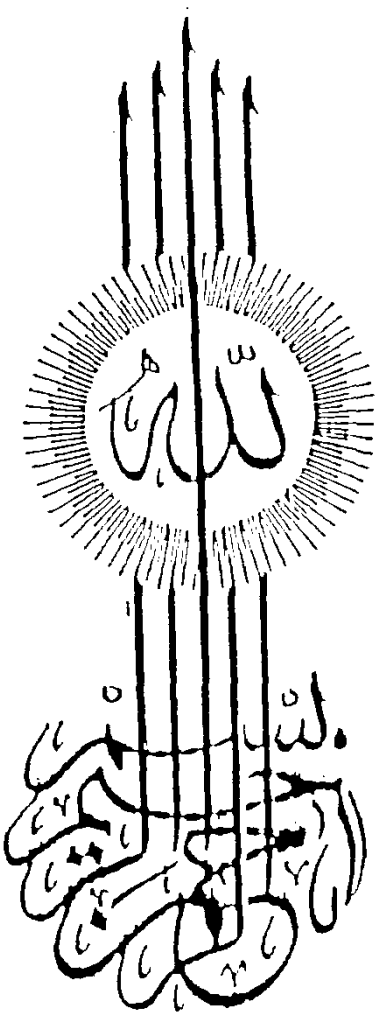

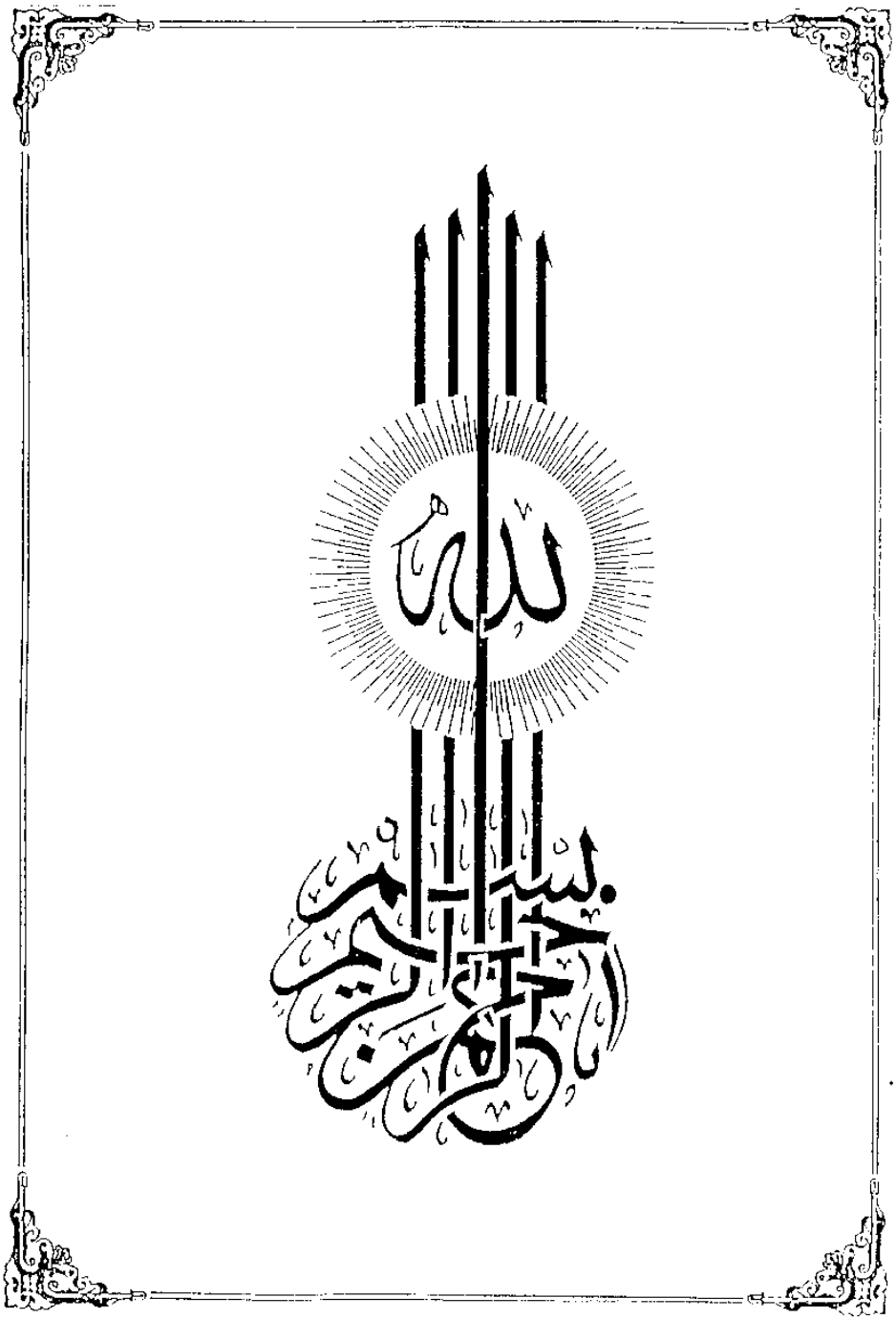

To my Parents

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Thanks to God, Fisrtly and Lastly.

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A B B R E V I A T I O N S

A_I	Angiotensin I.
A_{II}	Angiotensin II.
A_{III}	Angiotensin III.
A.C.E.T.	Angiotensin converting enzyme inhibitor.
A.S.	Aortic stenosis.
B/F	Bound/Free
B/B_o	Bound of sample/Bound at zero standard.
C/T ratio	Cardiothoracic ratio.
C.H.F.	Congestive heart failure.
E.D.T.A.	Ethylene Diamine Tetra-acetic acid.
G.F.R.	Glomerular filtration rate.
H.F.	Heart failure.
K. B_q	Kilo biquriel.
L.V.F.	Left ventricular failure.
µCi	Micro curi.
P.M.S.F.	Phenyl methyl sulphonyl fluoride ethanol.
P.R.A.	Plasma renin activity.
P.S.	Pulmonary stenosis.
R.I.A.	Radioimmuno assay.
R.A.A.S.	Renin Angiotensin Aldosterone axis.
R.A.S.	Renin Angiotensin system .
S.V.T.	Supraventricular tachycardia.
T.R.	Tricuspid Regurgitation.
V.S.D.	Ventricular septal defect.

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Introduction and Aim of the Work

INTRODUCTION

Heart failure is defined as inability of the heart to increase its output adequately to meet the normal demands of the body tissues at rest and with effort (Keith, 1978). When this is associated with abnormal circulatory congestion, then the term congestive heart failure is used (Schlant and Sonnenblick, 1982).

Among the homeostatic mechanisms activated when the heart fails as a pump, an increase in peripheral vascular resistance and expansion of the extracellular fluid volume secondary to salt and water retention (Zeils et al., 1973).

In a study on adult human beings with congestive heart failure, it was found that during severe decompensated left ventricular failure before the development of extracellular fluid volume expansion and restoration of systemic blood pressure, plasma renin activity and aldosterone levels are markedly elevated but they returned to normal after stabilization of heart failure and the extracellular fluid volume expansion (Dzau et al., 1981).

Again it was found that renin activity was higher in patients with congestive heart disease treated for

congestive heart failure, but it was not documented whether this increase was due to the disease itself or to the treatment (Scammell & Diver, 1987).

AIM OF THE WORK

The aim of this thesis is to study the plasma renin activity in the blood of patients with congestive heart failure whether rheumatic or congenital of the paediatric age and compare these levels with the plasma renin activity of control persons of the same age.