THE QUANTITATION AND SIGNIFICANCE OF RENIN IN BIOLOGICAL FLUIDS

A THESIS

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PREFACE

Renin is an enzyme which acts on an α_2-globulin substrate present in plasma to produce the decapeptide angiotensin I. Angiotensin I is converted to the octapeptide, angiotensin II, by the action of a chloride-dependent enzyme present in the blood and the lungs. Angiotensin is a factor in the control of the secretion of aldosterone and is a powerful vasoconstrictor. Therefore, renin is indirectly concerned with circulatory homeostasis.

This thesis describes the experimental techniques and results obtained in studies on the presence of renin in human urine and factors influencing its excretion; the presence of renin in human maternal and foetal tissues; and the contribution of renin and renin substrate levels to the changes in renin activity induced by natriuretic agents, the hormonal variations of a normal menstrual cycle, oral contraceptives and pregnancy.

The role of tachyphylaxis in the constrictor response to angiotensin in normal subjects has been investigated. Studies have also been carried out on the peripheral vascular response to angiotensin in the pregnant woman.

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