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THE EFFECT OF DEPOT PROVERA ON URINARY BLADDER FUNCTION

A Thesis
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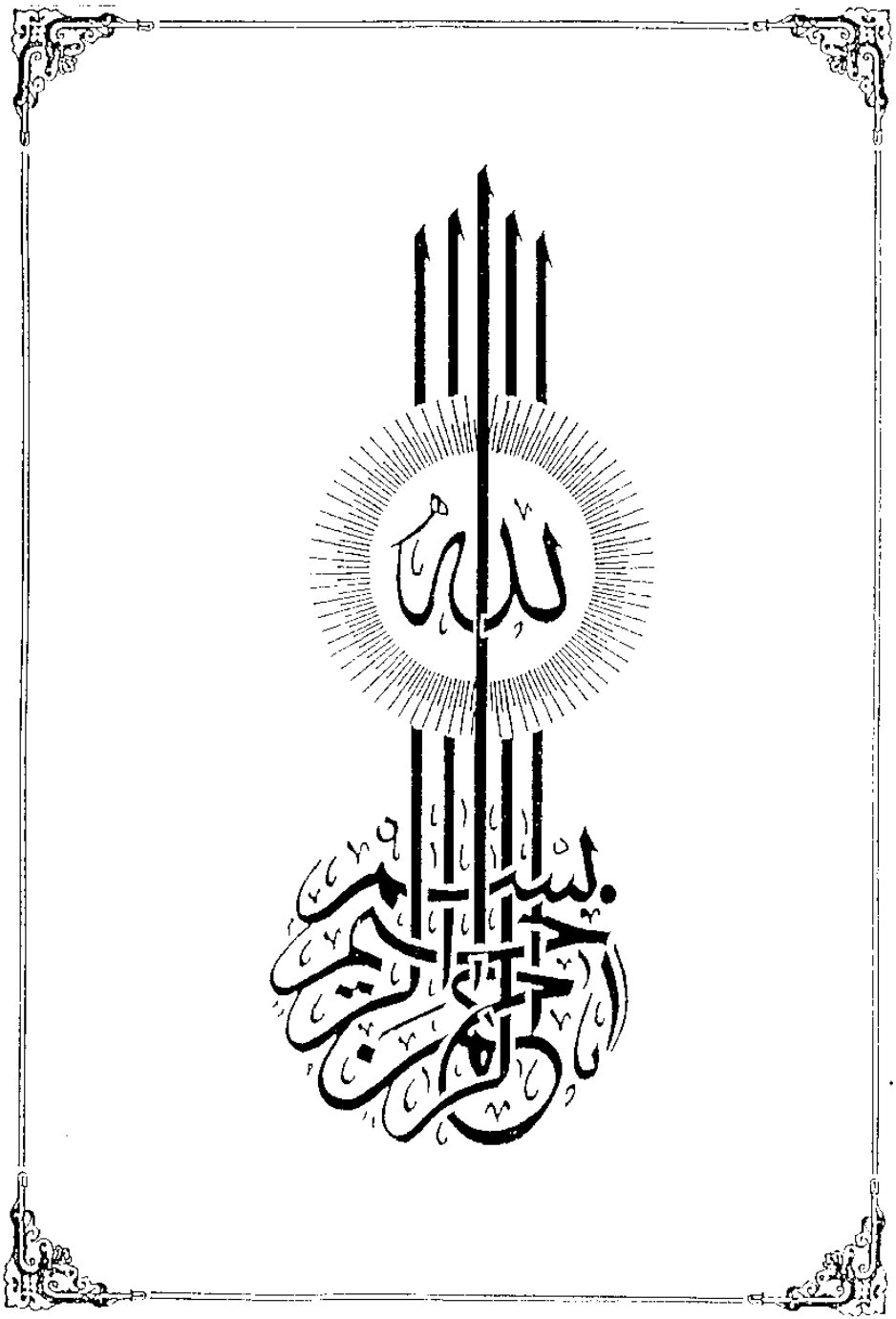

LIST OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Introduction

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From the physiological point of view the lower urinary tract function is storage and timely evacuation of urine. The bladder can store increasing amounts of urine with or without little change of intravesical pressure.

The urethral sphincter is designed to permit bladder emptying when required and to prevent escape of urine from bladder at rest and when intravesical pressure is increased secondary to raised intra-abdominal pressure *(Jeffcoate 1987)*.

The act of voiding is an integrated facilitatory function between the urinary bladder on one hand and its controlling sphincter on the other hand *(Jeffcoate 1987)*.

Lower urinary tract dysfunction is classified into 2 major categories, those related to defective storage phase and those related to voiding phase *(Wein 1981)*.

Urodynamic investigations enable the delineation between bladder dysfunction and urethral dysfunction and aids in the management of patients with urinary symptoms, in particular women who present with urinary incontinence *(Jeffcoate 1987)*.

Cystometric studies on pregnant females showed that there is increased bladder capacity due to progesterone activity ***(Mattingly and Amberg, 1967).***

Detrusor irritability is thought to be due to hormonal or neural changes of pregnancy rather than the mechanical effects ***(Francis 1960).***

One goal of contraceptive research is to develop an effective long acting method that doesn't require action on daily basis such as taking a pill or at each act of coitus as putting a condom. Long acting methods are prefered by many users as they reduce the need for clinical visits ***(Liskin and Quillin 1983).***

Experience of Depot Provera (Depot Medroxy Progesterone Acetate or DMPA) as a method of contraception dates back to the early 1960.

The close relationship between the structural and embryological development of the female urinary tract and vagina was first commented on by ***Parkes and Zukerman*** nearly sixty years ago. The administration of estrogen to post-menopausal women has been showed to increase urethral pressure ***(Faber and Heidenreich 1977).*** Progesterone on the other hand decreases tone in the ureter, bladder

and urethera by enhancing beta- adrenergic receptor responses ***(Miodrag et. al. 1988).*** Both findings support the concept that steroid hormones may interact with lower urinary tract physiology.

The availability of urodynamic investigations nowadays may give an answer for the question : Is there any relation between the injectable contraceptive Depot Provera and recurrent enuresis that some patients complain of after injections ? ?.

Aim of the work

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To study the effect of the injectable contraceptive Depot Provera (Depot Medroxy Progesterone Acetate) 150mg / 3 months on urinary bladder function .

Embryology, Functional anatomy and Physiology of female lower urinary tract.

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In order to appreciate fully the aetiology of defects that might arise in the function of the lower urinary tract, it is necessary to become acquainted with the development , anatomy and physiology of the bladder and urethera *(Malvern 1980).*

A) Embryological development of the lower urinary tract :-

The site of the future genitalia is first recognizable in the 4 mm embryo during the 4th week . It consists of an endodermal tube called the allantois (future bladder), two mesodermal ducts one on each side of the mid line called the mesonephric ducts and the endodermal hind - gut (future rectum) lying posteriorly in the mid line. All of these channels open into endodermal cavity (cloaca) which is covered by an ectodermal membrane.

During the 5th week the cloaca is a large cavity with the allantois entering anteriorly and the hind - gut posteriorly (Fig.1) In between is the urorectal septum, a connective tissue mass which grows downwards until it makes contact with the ectodermal membrane which has uptill now closed the cloaca (Fig. 2). This region where the septum and cloacal membrane merge become the