POST- T·U·R·P· ELECTROLYTE DISTURBANCES

Thesis
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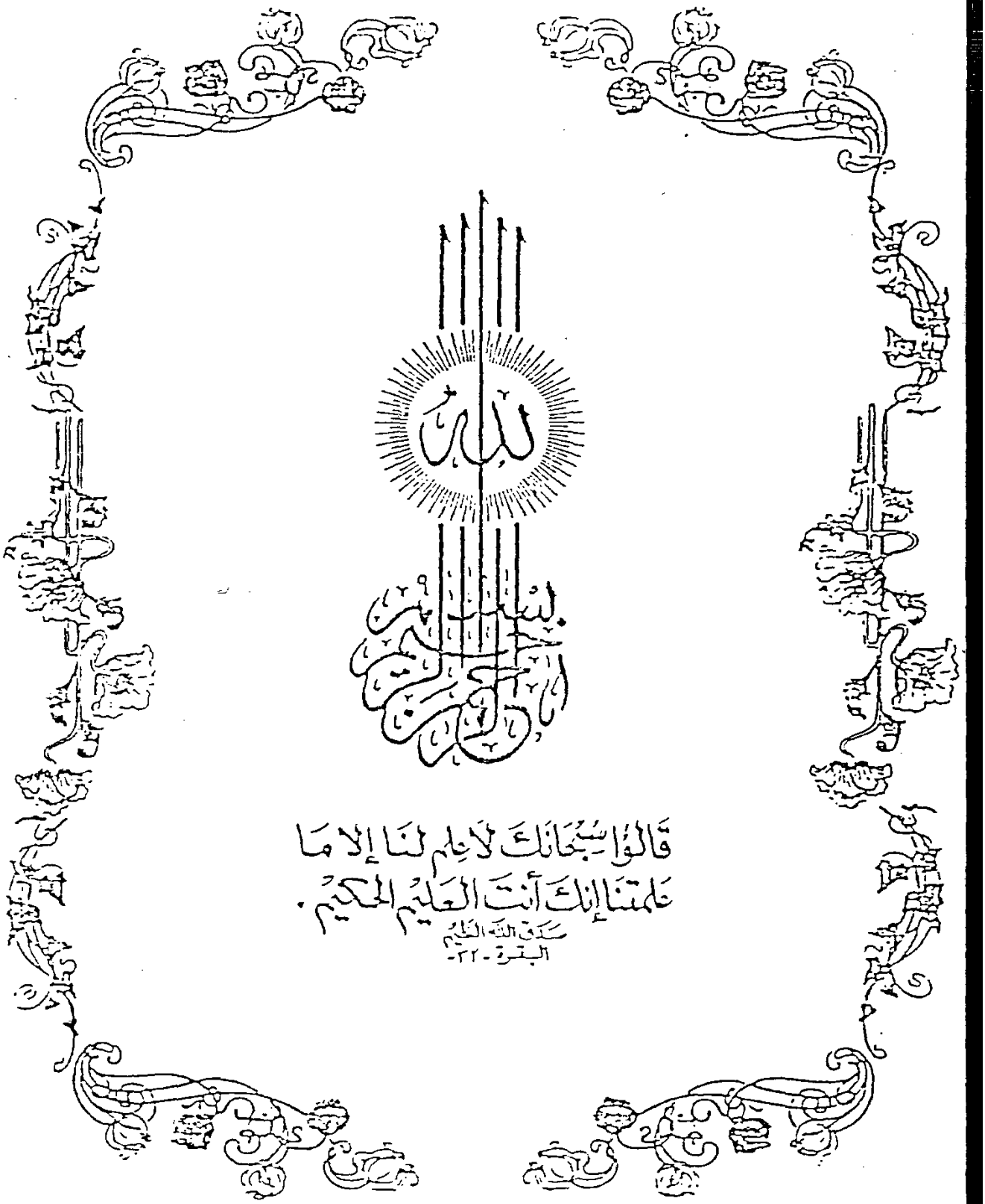

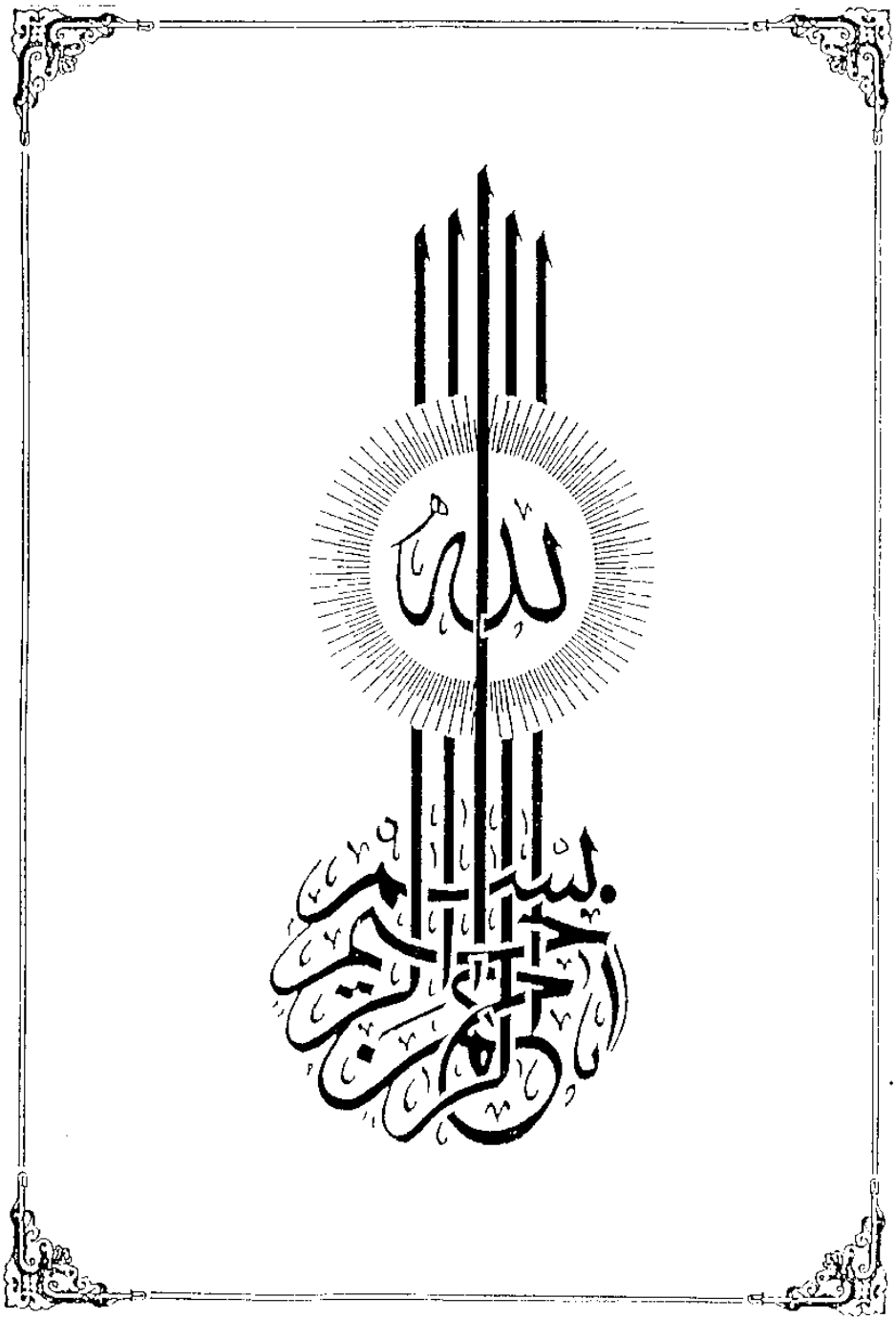

To My Family

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To You All..Thank You!

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INTRODUCTION

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AND
AIM OF THE WORK

The endoscopic operative urology consists of an interesting study in the advances achieved in the principles of aseptic and antiseptic urology, the progress in optical physics, the development of and the improvements in the electric light source, and finally the rapid advances in the knowledge of electronics. To these added the improved qualities of anaesthesia.

Transurethral resection of prostate can be traced back over 100 years, when the earliest operations were performed with ingenious instruments.

In the twenties, transurethral surgery was well established in America and at that time the resection was not more than just removal of the middle lobe of the prostate or the median bar. Since then there have been various modifications of the instrument, and the sizes of the gland removed were steadily increasing, until in the last 20 to 30 years, it has become the operation of choice for most of the urologists.

With the introduction of the Hopkin's system of lens and the use of cold light with the fibre-optic cables, the operation had entered a new era. That made the operation technically easier and minimized its complications *(Mitchell, 1981)*.

Since the prostate gland contains large venous sinuses, it is inevitable that irrigating solutions will be absorbed. On average 10 to 30 ml of fluid is absorbed per minute of resection time, with as much as 6 to 8 liters absorbed in some cases lasting up to two hours.

Nevertheless TURP is not without complication, one of the most feared is bleeding which sometimes may be severe, also the inevitable absorption of the irrigating fluid.

There are various types of irrigants, each type has its advantage and disadvantage.

The aim of this work is to study the various haemodynamic and electrolyte disturbances that may accompany the TURP in comparison of distilled water and glycine 1.5% as irrigating fluid.

REVIEW OF LITERATURE

HISTORICAL REVIEW

The fact an obstruction to the outflow of urine is liable to develop in old men, was noticed and reported since immemorial times.

As early as 1400 B.C. Hippocrates described in his records the following clinical condition, which fits with prostatism "when the patient passes in the urine blood and clots, he suffers strangury and is seized with pain in the perineum and pubis it indicates disease in the region of the bladder".

At 400 B.C., Midrash reported that old men have to strain to pass their urine, and occasionally need to defecate before they can urinate. Old men were advised to urinate at the first urge. Since any delay might lead to retention and swelling of abdomen.

Iben Sena wrote "Old men suffer obstruction to their urine out flow, and have to wait and to relax for regaining their urine outflow again".

According to young the prostate was first described in sixteenth centurey, by Massa but it was until the seventeenth century, that Riolan discovered that prostatic enlargment can obstruct the urinary outflow.

However, ***Francisco Diaz, (1515)*** described the condition of prostatism and attributed it to sexual abuse.

Ambroise paré, in the 16th century, is given credit for doing the first transuretheral operation to releive bladder outlet obstruction.

He recognized obstruction from uretheral stricture which he called "Carnosities" and used a curet and sharpened hollow sound to shear off these carnosities and relive obstruction.

In, ***1834, James Gurthrie*** reported cutting the vesical neck with knife concealed with in Catheter.

In ***1874, Bottini*** developed a technique of blind coagulation of the vesical neck using galvanocautery. This instrument was also modification of a lithotrite. It was used blindly and designed to produce fissure with eventual sloughing and elemination of the prostatic obstruction.

In ***1877, Nitze*** developed the first cystoscope.

In ***1882, d'Arsonval*** fulgurated tissue with low frequency current (< 10,000 oscillations/sec) could be passed through the body without causing harm other than feeling heat and could destroy tissue when applied using point electrode.

This obstruction established the basic function of the modern electro-surgical unit that gives the ability to fulgrate or coagulate tissue by use of low frequency current and incision of tissue with high frequency current.

In *1913 the High Young* carried out his first punch prostatectomy.

In *1925, Rose* was the first to attempt haemostasis after resection by using a cautery via his punch *(Mitchell, 1981)*.

Electroresection of the prostate gland (resectoscope) was intially introduced in (1926) by *Stern* and was later modified by *Davis, (1931)* subsequent modification were introduced by *Nesbit, (1939), Iglesias, (1948)* and others. *(Mitchell, 1981)*.

The sizes of gland removed were steading increasing until in 1948, *Iglesias, De la Torre* reported a record resection of 250 gm, which he claimed to have removed at one sitting, using his own modification of the resectoscope.

In 1935, there were speculation that toxic irrigation fluid enter the open viens. Increased incidence of the fatal renal failure related to T.U.R.P. reported in 1936. The morbidity and mortality was extraordinary during this period.

In 1937, it was reported by ***Rolnick and Riskind*** that 51 of 283 (18.5%) who underwent trans-uretheral prostatectomy died, ***(Sacks, 1985)***.

1947, Creevy and Webb pointed out the danger of water causing intravascular haemolysis leading to increased morbidity and mortality rates.

In 1948, The frequency of the T.U.R. syndrome was estimated to approximate 2.5% of all resections and the syndrome seemed to be associated more frequently with resection of small glands.

Interstingly, at least 15 years had elapsed between general acceptance of Trans Uretheral Resection of prostate gland and the first description to T.U.R. syndrome ***(Sacks, 1985)***.

ANATOMY

- The prostate is a composite structure which includes glandular element and a stroma of collagenuous and muscular tissues.

- It surrounds the commencement of the urethera in the male.

- It lies immediately below the base of the bladder surrounding the proximal portion of the urethera.

- The prostate varies in size, an average measurment being length 3.4 cm, width 4.4 cm and thickness 2.6 cm. The weight is about 20 gm in adult male.

The human benign prostatic hyperplasia does not uniformly grow throughout the gland, but rather develops mainly in a region close to prostatic urethra.

For many years, the prostate was beliveved to have a lobar structure. *Lowsley (1912)* proposed the existance of 5 prostatic lobes based upon embyrological findings which are two lateral, one posterior, one middle and one anterior lobes. The anterior one is present only in fetal material, and it atrophied and disappeared at birth. Urologic surgeons frequently refer to midline and laterally projecting nodules of B.P.H. as median and lateral lobes respectively.