URETEROSCOPIC MANAGEMENT OF UPPER URETERIC CALCULI

Thesis

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Urology

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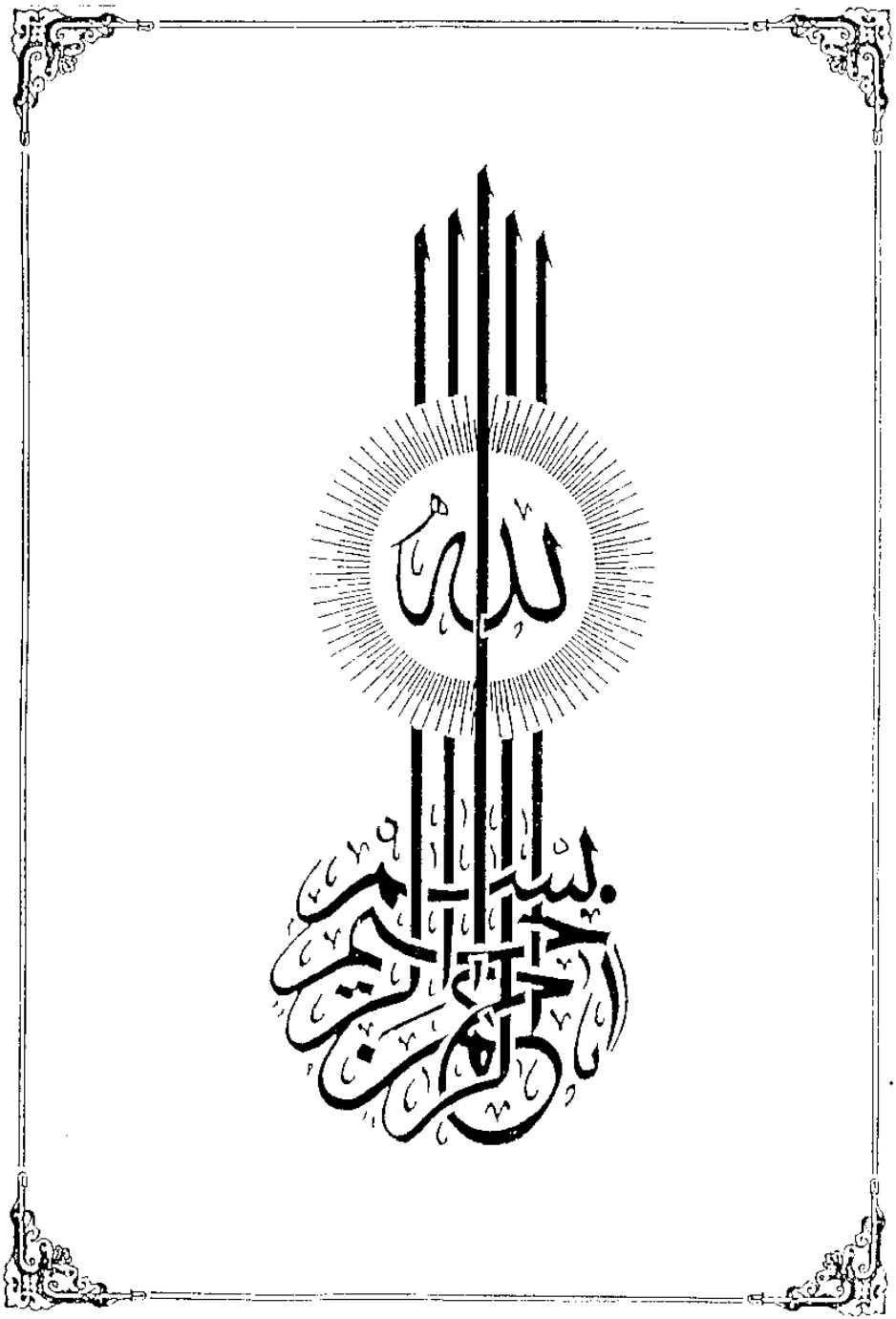

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CONTENTS

INTRODUCTION AND AIM OF THE WORK

Introduction

Stones in the upper ureter represent a challenge to the practicing urologist. A wide spectrum of therapeutic modalities are available ranging from waiting expectancy to open surgical lithotomy.

Modern surgical management of ureteral stones has been defined by the parallel development of two different technologies, the introduction of flexible and rigid ureteroscopes of varying sizes and extra-corporeal shock wave lithotripsy (ESWL).

- ***Expectant treatment:***

The role of conservative or expectant therapy should not be forgotten because it remains a reasonable alternative for small ureteral stones.

Stone size, in particular its maximum diameter, is the most important of whether a calculus, given time, will pass or not.

The location of the stone at initial presentation also influences the rate of spontaneous passage.

- ***Extra-Corporeal shock wave lithotripsy:*** **(ESWL)**

ESWL has become the 1st line of treatment for upper ureteral calculi. Therapy easily can be accomplished as an outpatient procedure. As the indication of ESWL were extended to the upper ureter in the mid 1980s, reports of success rates for fragmentation were generally greater than 80% and often beyond 90%.

Graff et al (1988), Liong et al (1989) and ***Netto et al (1991)*** reported success rate of 94.7%.

- ***Percutaneous antegrade endoscopy:***

The use of percutaneous approach to treat renal stones was introduced in ***1976*** by ***Frenstrom***, and ***Johannson (1976)*** and popularized by ***Smith et al (1979)*** and ***Alken (1982)*** within few years.

Stones in the upper ureter usually can be approached through mid pole calyx following retrograde catheterization of the ureter and opacification of the collecting system under the same anesthetic. The stone can then be grasped if the ureter is dilated or fragmented with any number of intracorporeal

lithotripsy modalities ***(Denstsdt, 1995; Denstedt et al, 1992).***

- ***Laporoscopic Ureterolithotomy:***

With expanding the application of laparoscopic methods in urology, this technique has been used for removing ureteral calculi, the aim is to remove the ureteral calculus with a method less invasive than open ureterolithotomy.

The access to the ureter can be either transperitoneal or retroperitoneal.

- ***Retrograde Ureteroscopy:***

The initial work that described retrograde access to the proximal ureteral stone met with limited success ***(Liong et al, 1989; Morse et al, 1991).***

Large rigid ureteroscopes however usually 10.5F, or 11.5F. generally were used with the wide array of smaller rigid and flexible instruments available today. Access to the kidney itself usually can be achieved from below.

The smaller caliber ureteroscopes and wide availability of safe intracorporeal lithotripsy devices usually make retrograde ureteroscopy the next logical choice. With the newer endosopes and over all decrease in the invasiveness of ureteroscopy, there is growing movement to offer retrograde ureteroscopy up front as a primary treatment of many proximal ureteral stones.

1-Ultrasonic lithotripsy

Ultrasonic lithotripsy techniques successfully used in the bladder and with percutaneous approaches, may also be applied ureteroscopically ***(Huffman et al, 1983b).***

2-Electrohydraulic lithotripsy (EHL)

Electrohydraulic lithotripsy can be used cautiously for endoscopic fragmentation of upper ureteric stones.

3-Ballistic Lithotripsy

The Swiss lithoclast is another method used to fragment ureteral stones ***(Schultz et al., 1993).*** This method of fragmentation is based on pneumatic shock wave that are transmitted through No. 2.4, 3 or 6F metallic rod.

4-Laser lithotripsy

The most recently introduced method for intracorporeal lithotripsy is the use of laser energy.

Different types of laser as the pulsed dye laser, the Nd YAG laser, Alexandrite laser and recently Holmium. YAG laser have been used successfully for disintegration of ureteric stones.

Laser energy can be applied through small caliber fibers in rigid and flexible ureteroscopes.

Aim of the Work

For evaluation of the efficacy of retrograde ureteroscopy (rigid and or flexible) for the management of upper ureteric calculi and follow up for detection of possible complication.