INCIDENCE OF OBSTRUCTIVE UROPATHY IN DIALYSIS PATIENTS

THESIS

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BY

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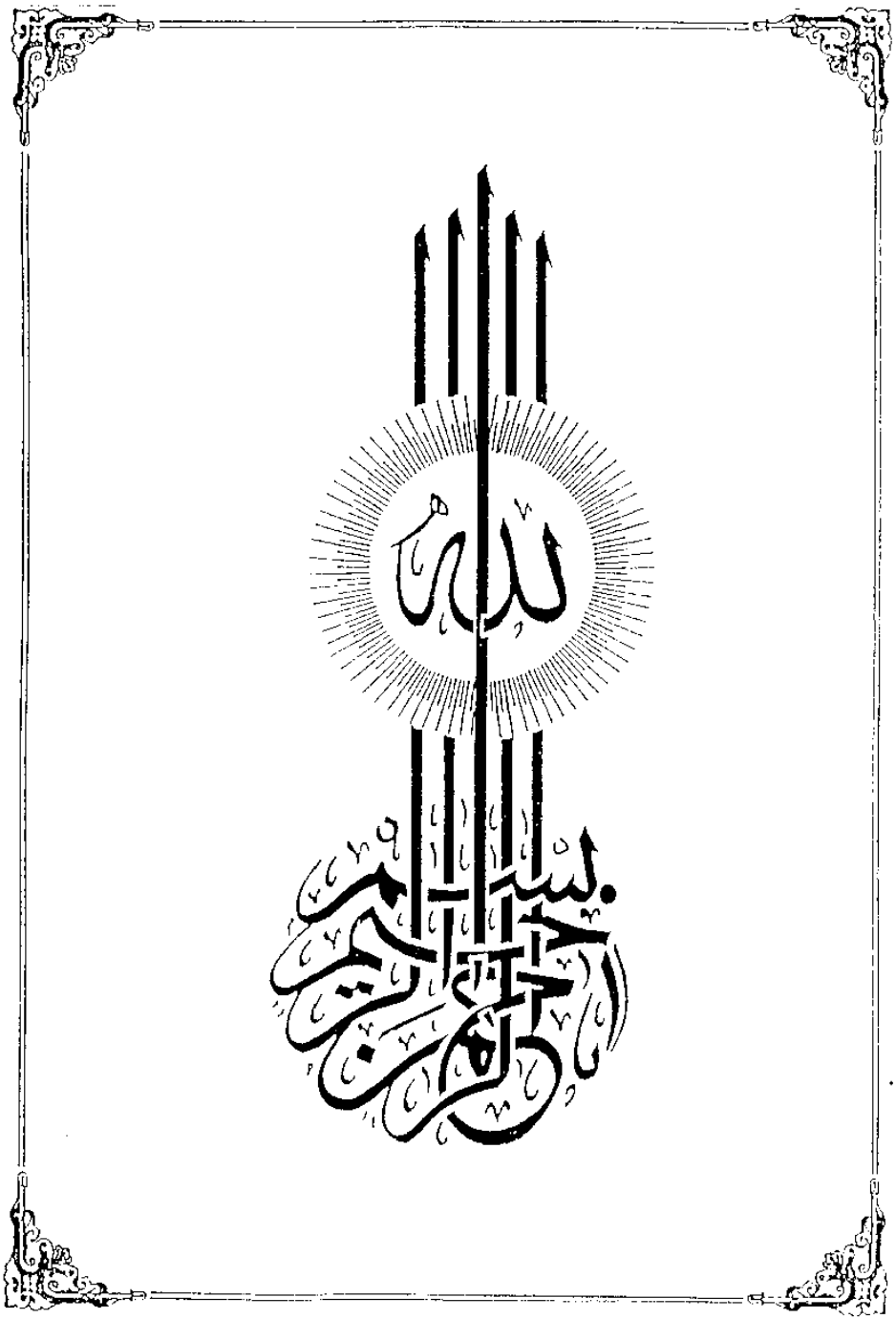

C O N T E N T S

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INTRODUCTION

INTRODUCTION AND AIM OF THE WORK

The normal mechanisms of urine formation includes glomerular filtration and tubular reabsorption and secretion. It depends on the progressive decrease in the hydrostatic pressure from the renal artery to the bladder, changes in this gradient of pressure can be expected to affect renal function (Wilson, 1972). When any part of the urinary tract is obstructed, continued urine production soon increases both volume and pressure in the more proximal passages. If the obstruction persists, the kidney can be damaged-in time, irreversibly so. Because the eventual consequence of obstruction may be renal failure and because timely relief of obstruction can spare renal function, it is important that this condition be recognized and treated.In very young children or in patients in whom the onset is gradual, there may be few symptoms to warn of the presence of obstruction.

Vigilance and suspicion are necessary if obstructing lesions are to be detected early enough for treatment to yield benefits.

Appropriate diagnostic measures should be under taken with care, but also without undue delay.

The presence of urinary tract obstruction is not always obvious. It may be recognized easily in patients with severe flank pain or anuria, but may go unrecognized for a time when the manifestations are abdominal pain , pyuria, fever, or dehydration. In addition to common underlying causes such as prostatic enlargement, bilharziasis, and urinary calculi, other conditions such as enteritis or pelvic or abdominal neoplasms may result in urinary tract obstruction. The new born, the middle-aged, and the elderly are all susceptible to obstructive lesions and their damaging effects.

The aim of this work is to deal with the settings in which obstruction occurs, how it can be recognized and

the effects of obstruction on renal function and on the function of the renal collecting system. This is achieved by combined clinical picture, specific investigations and ultrasonographic examination.

We provide also informations both to help understand clinical manifestations and to guide the way to appropriate treatment.

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REVIEW OF LITERATURE

OBSTRUCTIVE UROPATHY

Definition :-

It is defined as impedence to the flow of urine resulting in an abnormal back pressure on the kidney, or in dynamic terms, it is a narrowing such that the proximal pressure must be raised to transmit the usual flow through it (Schweitzer, 1973).

Another Definition :-

It is a syndrome characterized by: The impedence to the flow of urine, urinary tract dilatation, reduction in flow rate, varing intrarenal pressures and functional impairement. (O'Reilly, 1982).

Incidence :-

The incidence of hydronephrosis at autopsy varies from 3.5 % to 3.8 % (Hinman et al., 1971). It is a common disease although the clinical frequency of significant obstruction of the urinary tract is lower than noted at postmortem examination.

In children, the obstruction occurs with about equal frequency in boys and girls, although the distribution of the underlying disease varies between sexes. As the urinary excretion begins in the fourth month in utero, an infant may be born with hydronephrosis. Complete obstruction of the kidney early in utero results in dysplastic, cystic kidney, whereas later obstruction causes hydronephrosis. This clinical observation has been confirmed in the experimental animal by (Beck, 1971). The abnormal morphogenesis (dysplasia), associated with in utero obstruction is correlated with the degree of obstruction and is more severe in outer renal cortex than in the inner renal cortex (Bernstein, 1968). The kidneys of adults with severe partial ureteric obstruction are not dysplastic but are sometimes, seen to have focal diltations and diverticula in the walls of loops of Henele(Baert et al., 1976). Hydronephrosis is the most common cause of an abdominal mass in the neontal period.

Campbell,1970, in a postmortem study of 15 , 919. Children ; found that 316 (1.99 %) had hydronephrosis 256 (81 %) of those affected were one year of age or under, and 148 of these 256 (57.8 %) were males . The incidence of hydronephrosis is much lower in the older child. 14 of the affected children (4.4 %) were aged 3 to 10 years, and 11 children (3.5 %) were 11 to 15 years old. Clinically recognized obstruction as opposed to those seen postmortem have a less age distribution.

During the middle years of age hydronephrosis is more common in women than in men because of the frequency of pregnancy and carcinoma of the cervix. Bilharziasis and calculus disease is the most common cause of hydronephrosis in young adult male (Ibrahim et al., 1967 ; and El-Akkad, 1973). Later in life, as a result of benign and malignant prostatic disease as well as urethral strictures, men with obstructive uropathy outnumber women.

Aetiology, Classification, and Types of the Lesions:-

- Significant obstructing lesions leading to renal failure occur throughout the urinary tract, from the

tubule (as seen in multiple myeloma and uric acid nephropathy) to beyound the urethral meatus (secondary to phimosis).

- The obstruction may be functional or mechanical.
- Common functional lesions include: a dynamic urethral segment, ureterovesical reflux and neurogenic bladder (Warshaw et al., 1982). Although obstructive uropathy is found in male infants with posterior urethral valves, secondary to neurogenic bladder, and rarely in patients with ureteral pelvic junction, the concept of bladder neck obstruction as a cause of vesicoureteral reflux was refused by (Stamy, 1980), the inclusion of patients with primary vesicoureteral reflux under the classification of obstructive uropathy is erroneous and makes the findings in Warshaw et al. Study difficult to interpert if not meaningless, Of the 53 cases they describe at least 22 seem to have reflux nephropathy and not obstructive uropathy at all.

- The anatomical or mechanical obstructions encountered in childhood are susually caused by congenital malformations such as ureteropelvic stricture, abnormal insertion of the ureter into the bladder, anomalous location of the ureter as retrocaval ureter and ectopic ureter, and posterior urethral valves. Patients with duplicated collecting system frequently have ureteral obstruction. Children may also have malfunctioning bladder secondary to myelodysplasia, congenital ureteric and urethral strictures and urethral meatal stenosis (Smith, 1969).

- The most prevalent causes of obstruction of the urinary tract in the adult female are pregnancy, calculi, and pelvic malignancies, (Waltzer, W.C., 1981).

Routine pelvic surgery in women results in a 0.5 % to 3 % incidence of ureteral trauma, whereas roughly 10 % of all women undergoing radical pelvic surgery for carcinoma of the cervix suffer from a ureteral injury (Orkin L.A., 1964). The incidence of post irradiation ureteral fibrosis

is 1 % (Sklaroff et al., 1978). However, when an operation is combined with irradiation therapy the incidence of stricture is higher (about 5 % to 7 %). (Sklaroff et al., 1978). It appears that the ureter is relatively resistant to the effects of radiation alone, but with pre-operative or intraoperative catheterization pelvic inflammatory disease and periureteral dissection, the incidence of fibrosis and obstruction increases dramatically (Goodman, M. et al., 1982).

The uretheral strictures frequently diagnosed in women rarely create an obstruction that leads to impairment of renal function.

- The most common causes of obstruction of the urinary tract in the adult male are:-

1) Calculi and this is termed calculus anuria and is due to impaction of a stone in one or both ureters under the following circumstances: