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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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قسم

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Antegrade Ureteric Stenting in Management of Ureteric Obstruction in Case of Difficult Retrograde Access; Indications, Success Rates & Predictors of Failure

Thesis

Submitted for Partial Fulfillment for M.D in **Urology**

By

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Amr Mohamed Sayed Zriek

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List of Abbreviations

Abb.	Full term
ASA	*American Society of Anesthesiologists*
AGDJ	*Antegrade double J*
BMI	*Body Mass Index*
BUN	*Blood Urea Nitrogen*
BUO	*Bilateral Ureteric Obstruction*
CBC	*Complete Blood Count*
CT scan	*Computed Tomography scan*
CX	*Cancer*
DJ	*Double J stent*
DTPA	*Diethylene Triamine Pentaacetic Acid*
FENa	*Fractional urinary sodium Excretion*
Gd-DTPA	*Gadolinium diethylene triaminepentaacetate*
GMV	*Galadako Modified Valdivia*
GW	*Guide Wire*
IVU	*Intravenous Urogram*
MAG3	*Mercaptoacetyltriglycine*
MHz	*Megahertz*
MPA	*Multipurpose Angiographic catheter*
MRI	*Magnetic resonance imaging*
MRU	*Magnetic resonance urography*
PCN	*Percutaneous Nephrostomy*
PTFE	*Polytetrafluoroethylene*
PUJ	*Pelviureteric junction*

List of Abbreviations cont...

Abb.	Full term

RGDJ.....Retrograde double j

RI .....Resistive index

TURBT .....Transurethral Resection of Bladder Tumor

TURP.....Transurethral Resection of the Prostate

UEAS.....Uretero-enteric anastomotic stricture

UO .....Ureteric Obstruction

URS .....Ureterorenoscopy

UTI .....Urinary tract infection

UUO .....Unilateral Ureteric Obstruction

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INTRODUCTION

Dilatation of the renal pelvis and calices as a result of urinary tract obstruction can be intrinsic or extrinsic and can result from both benign and malignant aetiologies. Extrinsic obstruction is most often caused by compression or mural infiltration of the ureter wall by a surrounding pelvic mass, for instance a urologic, gynaecologic or colorectal tumour. Furthermore, extrinsic obstruction can be caused by benign aetiologies such as retroperitoneal fibrosis, scar tissue, endometriosis, inflammation or, in rare circumstances, by anatomic variants ***(Hausegger et al., 2006).***

The management of ureteric obstruction depends upon the underlying pathology, type/cause of obstruction/ stricture and also the patient's preference and whether or not the patient is fit to undergo anesthesia ***(Venyo & Bakir, 2011).***

Patients who require temporary or long term urinary drainage for obstruction of the upper urinary tract may be managed by a number of procedures some of which include percutaneous nephrostomy insertion, antegrade ureteric stent insertion, retrograde ureteric stent insertion, ileal conduit construction, ureterostomy procedure as well as uretero-ureteric anastomosis ***(Venyo & Bakir, 2011).***

In general, the treatment of choice in acute hydronephrosis is insertion of a percutaneous nephrostomy

catheter (PCN). However, this external drainage catheter shows a high incidence of complications in long-term management, such as infection and dislocation ***(Venyo & Bakir, 2011).***

The first two procedures can be performed with the use of local anesthesia, sedation and analgesia, but the remaining procedures do require the use of general anesthesia in the operating theatre and require the patients to be fit to undergo general anesthesia ***(Hausegger et al., 2006).***

Patients with benign/malignant ureteric strictures are often treated with ureteric stenting via an antegrade, retrograde or combined approach ***(Chitale et al., 2002).***

In most institutions retrograde stent insertion is attempted first. Retrograde stent insertion is typically performed under cystoscopic guidance with patients occasionally under general anaesthesia. In patients with malignant obstruction the retrograde approach may be difficult, or even impossible ***(Yossepowitch et al., 2001).***

Sometimes retrograde ureteric stenting may be abandoned in theatre due to the inability of the surgeon to advance the guidewire by the retrograde approach beyond the point of obstruction; in such cases the only options left are insertion of a percutaneous nephrostomy plus or minus an attempt at insertion of the ureteric stent by means of the ante-grade approach ***(Hausegger et al., 2006).***

It is also possible for a ureteric stent to be inserted in a patient who is temporarily not fit to undergo general anesthesia ***(Venyo & Bakir, 2011).***

The major complication of the antegrade technique is retroperitoneal bleeding. Transfusion-demanding bleeding ranges between 1% and 4% in case of standard PCN ***(Wah et al., 2004).***

The retrograde approach avoids the potential complications of PCN, which is the prerequisite for antegrade stent placement. Potential complications of a double J catheter, and thus for both techniques, are perforation, infection, haematuria, malposition, migration, inadequate relief of obstruction and ureteral erosion or fistulisation ***(Makramalla & Zuckerman, 2011).***

Several studies report on the results of retrograde internal stent placement, sometimes in comparison with PCN. These studies show that retrograde stent insertion is technically successful in more or less 75% of cases. Only two studies compare retrograde and antegrade double-J catheter placement, however not in randomized fashion ***(Monsky et al., 2013).***

In a series of 65 patients Chitale et al. retrospectively compare technical success rates of retrograde stent insertion with PCN followed by antegrade stent placement in patients with malignant obstruction. The retrograde approach had a

success rate of only 21%. On the other hand, antegrade stent insertion was successful in 98% cases. They conclude that obstruction of the pelvic ureter is best managed by two-stage antegrade ureteric stenting. In a series of 50 obstructed ureters (in 30 patients) Uthappa et al. report success rates of 50% and 96%, of respectively retrograde and antegrade stent insertion ***(Uthappa & Cowan, 2005).***