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Original article

JJ catheter lift: indications and results in the urology department of the Hôpital National Ignace Deen de Conakry Guinée

La Montée de sonde JJ : les indications et résultats au service d'urologie de l'Hôpital National Ignace Deen de Conakry Guinée

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Résumé

Introduction : l'objectif de cette étude était de décrire des indications de la montée de sonde JJ et de rapporter les résultats.

Méthodologie : il s'agissait d'une étude prospective d'une durée de 12 mois allant du 01 janvier au 31 décembre 2022 qui a porté sur 48 patients ayant bénéficié d'une montée de sonde JJ de première intention.

Résultats : l'âge moyen de nos patients était de 44,7 ±13,2 ans ; la tranche d'âge 31-40 ans était la plus représentée (33,3%) avec des extrêmes d'âges de 20 et 74 ans. Le sex ratio H/F était de 2. La douleur lombaire était le principal motif de consultation avec 25% de CNA. L'hydronéphrose+ insuffisance rénale ou menace à la fonction rénale était la principale indication de montée de sonde JJ (64,6%) suivie de la CNA hyperalgique (18,7%) et l'étiologie était dominée par les lithiases urinaires (87,5%). Nous avons noté un succès opératoire de 87,5% contre 12,5% d'échec.

Conclusion : la montée de sonde JJ est un acte fréquent de drainage du haut appareil urinaire en vue d'une préservation ou amélioration de la fonction rénale. Elle a été indiquée principalement pour hydronéphrose + insuffisance rénale. Nous avons noté un faible taux d'échec et de complications post opératoires.

Mots-clés : Sonde JJ, Indications, Résultat, Conakry.

Abstract

Introduction: the aim of this study was to describe the indications for JJ probe ascent and to report the results.

Material and methods: this was a 12-month prospective study from January 01 to December 31, 2022, involving 48 patients who had undergone first-line JJ catheterization.

Results: The mean age of our patients was 44.7 ±13.2 years; the 31-40 age group was the most represented (33.3%), with extremes of 20 and 74 years. The sex ratio M/F was 2. Low back pain was the main reason for consultation, with 25% of CNAs. Hydronephrosis

+ renal failure or threat to renal function was the main indication for JJ catheter insertion (64.6%), followed by hyperalgesic NAC (18.7%), with urinary lithiasis dominating the etiology (87.5%). The operative success rate was 87.5%, with a 12.5% failure rate.
Conclusion: JJ catheter insertion is a frequent procedure for drainage of the upper urinary tract to preserve or improve renal function. It has mainly been indicated for hydronephrosis + renal failure. We have noted a low rate of failure and postoperative complications.
Keywords: JJ Probe, Indications, Result, Conakry.

Introduction

The JJ catheter is a self-static internal catheter placed between the kidney and the bladder, allowing urine to flow freely and removing an obstruction in the ureter. The catheter is tubular to allow urine to pass through. This flexible plastic catheter (polyurethane or silicone) has curves at both ends, enabling it to be held between the renal cavities (upper end) and the bladder (lower end) [1].
It was first described in 1967 by Zimskind et al [2]. Today, it is used for a wide variety of indications, and is one of the most frequently performed procedures in urology. Although the procedure is effective in both emergency and planned settings, it is also associated with failures and complications, hence the need for perfect mastery of indications and surgical technique. Currently, in the presence of dilated renal cavities with or without renal failure, or where there is a risk of intrinsic or extrinsic obstruction of the ureteral lumen, JJ catheterization represents a minimally invasive alternative for drainage of the upper urinary tract [3].
The aim of this study was to highlight the indications and analyze the results of JJ catheterization in the urology department of CHU Ignace Deen.

Methodology

This was a prospective descriptive study lasting 12 months, from January 1 to December 31, 2022, covering patients who had had a JJ catheter inserted in the department. Patients who underwent JJ catheterization as an adjunct to upper urinary tract surgery were excluded.
The JJ probe from coloplast laboratories and Cook CH7 24-26 cm were used according to availability. An endoscopy column and a Wolf cystoscope with 30° optics were used to perform the procedure.
In the absence of an image intensifier in the operating room, the catheter was inserted blindly into the renal cavities. Release of the bladder loop was performed under visual control.
An ASP was performed in the radiology department on D0 or D1 post-op, depending on slot availability.
The evaluation included preoperative, intraoperative and postoperative patient data.

The preoperative assessment covered the patient (age, sex) and the disease (reason for admission, clinical signs, imaging results, renal function, ionogram).
Intraoperative evaluation focused on: type of anesthesia; outcome of the procedure
Success: when the JJ catheter was well looped in the renal cavities on postoperative PSA Failure: when the catheter could not be fitted. Causes of failure were analyzed.
Postoperative evaluation focused on postoperative complications and global renal function at D1.

Results

Six hundred and twenty-three (623) surgical procedures were carried out during the study period, with 48 patients (7.7%) being indicated for JJ catheter rise.
The mean age was 44.7 ±13.2 years (min 20 and max 74 years), with 32 men and 18 women being most affected, i.e. a sex ratio of m/f equals 2. The reason for admission was dull back pain in 35 patients and

acute renal colic in 12; physical signs were pain on shaking of the lumbar fossa in 42 patients, a large kidney in 4 patients (table 1).

Creatinine levels were normal in 20 patients. Mean creatinine was 275.16 (min58 and max1184 µmol/l). Hydronephrosis complicated by renal failure was the most frequent indication for JJ placement in 35 patients, and lithiasis of the upper urinary tract was the most frequent etiology in 42 patients (table 2). Rachi anesthesia was used in 45 patients (93.8%) and general anesthesia in 3 patients (6.2%).

Ascent was successful in 42 (87.5%) patients, with 6 cases of failure (12.5%). The causes of failure were non-individuation of the meatus in 4 patients and a false route in 2 patients. We recorded 3 cases of pyelonephritis on JJ and an improvement in mean creatinine to 139µmol/l (min 53, max 899).

Table 1: reasons for consultation and physical signs found

	Workforce	Percentage (%)
Reasons for consultation		
Lower back pain	35	72,9
NAC	12	25
Hematuria	6	12,5
Pollakiuria	3	6,2
Anuria	2	4,2
Oliguria	1	2,1
Physical signs		
Shaking pin in the lumbar fossa	42	87,5
Large kidney	4	8,5
Hypogastric mass	2	4,2

Table 2: Indications for JJ insertion and etiologies

	Workforce	Percentage (%)
Indications		
Hydronephrosis + Renal failure	31	64,6
Hyperalgesic CNA	9	18,8
Ureterohydronephrosis + IR or threat of IR	6	12,4
Obstructive anuria	2	4,2
Etiologies		
Urinary lithiasis	42	87,5
Urethral stricture	3	6,25
Bladder tumor	3	6,25

Discussion

Acute or chronic, extrinsic or intrinsic obstruction of the upper urinary tract generally leads to urinary bypass surgery to preserve renal function. This may be done endoscopically (JJ stent, mono J catheter, ureter catheter), percutaneously (percutaneous nephrostomy) or both, temporarily or permanently.

Like other types of endoscopic shunt, the JJ catheter maintains the permeability of the upper urinary tract.

In this study, only patients with the indication for JJ catheterization were studied. The mean age of our patients was in line with that of Ndiath et al [4] and Zakrou et al [5], who respectively reported a mean age of 43.6 ± 17.5 years, with extremes of 14, 80 and 47.9 years. As for the sex ratio, it was identical to that of Ouédraogo et al [6], in Burkina, who had found a sex ratio of 2.1 but different from Ndiath and Zakrou [4;5] who had respectively reported a sex ratio of 0.6 and 0.47.

Indications for JJ catheterization are most often related to acute or chronic obstruction of the upper urinary tract, resulting in low back pain or renal colic, sometimes with impaired renal function. Dull low back pain and acute obstructive renal colic were the main reasons for admission for JJ ascending, and upper urinary tract lithiasis was the main etiology of the obstruction, which itself was subsequently managed. In their series, Ndiath et al and Zakrou et al respectively found obstructive renal colic and ureterohydronephrosis to be the main indications for JJ in proportions of 62.5% and 95.5%.

Spinal anaesthesia was the most common type of anaesthesia, which was at the discretion of the anaesthetist and had no impact on the success or failure of the procedure. Unlike Ndiath and Zakrou, where general anesthesia was the most common.

Double-J catheter insertion is best performed under spinal or general anaesthesia, but can also be performed under local anaesthesia [7].

The feasibility of the procedure under local anaesthesia with endourethral instillation of 1% xylocaine has been reported in some studies. Sivalingam et al [8] demonstrated that double J catheterization under local anesthesia with lidocaine 1% urethral gel was tolerable and as successful as general anesthesia; this was confirmed in the series by Nourparvar et al [9], who reported the feasibility of double J catheterization under local anesthesia, with 30 out of 40 patients (71%) achieving operative success. Ouédraogo et al [6] reported a frequency of 7.3% under local anaesthetic. Although there was no fluoroscopic or ultrasound guidance during the procedure in our study, the success rate was similar to most of the data in the literature: 86.5% for Ndiath et al [4], 84% for Lih-Ming Wonget al [10].

The failure rate was 12.5% in our series, and was related to non-individuation of the meatus by a neoplastic process or the occurrence of a false route during the procedure. Locally advanced pelvic tumors are a major cause of urinary retention. They are a major factor in JJ catheter placement failure, often leading to percutaneous nephrostomy. Under fluoroscopic control, the double anterograde and retrograde approach offers an alternative in certain cases of failure. This double approach was used by Macrı et al [11], who saw their ureteral intubation success rate increase from 78.6% to 88.09%.

Conclusion

JJ catheter insertion is a frequent procedure for drainage of the upper urinary tract with a view to preserving or improving renal function. It has mainly been indicated in planned surgery for hydronephrosis; in emergency for hyperalgesic NAC and obstructive anuria, and has also enabled us to prepare the ureter for endoscopic treatment of urinary lithiasis. We noted a low rate of postoperative failure and complication. A double approach under fluoroscopic control would have considerably reduced the failure rate in our series.

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Conflict of interest : None

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