

Role of Alpha-1 Antagonists in Treatment of Double J Stent Related Discomfort and Urinary Symptoms

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Abstract

Original Research Article

Objective: The aim of our study is the role of alpha-1 antagonists in treatment of double J stent related discomfort and urinary symptoms. **Material and Method:** This retrospective study include 150 patients (100 males and 50 females) with double J stent between May 2018 and January 2021 inserted DJ catheters, the stones size ranged 6- 13mm. 90 cases received alpha-1 antagonists post DJ catheters insertion and other 60 cases received placebo. **Result:** Total of 150 patients was enrolled in our study. Male to female ratio was (2-1), and the age ranged 23-55 years. 90 patients received alpha-1 antagonist's (tamsulosin) post DJ catheters inserted one tablet daily and 60 patients received one tablet placebo post DJ catheter inserted. We found alpha-1 antagonists more effective for relief pain score, voiding symptoms and quality of life score. **Conclusion:** Our study shows alpha-1 antagonist's decreased stent related urinary symptoms and improved quality of life.

Keywords: DJC, Tamsulosin, urinary symptoms, hematuria.

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INTRODUCTION

DJ catheters inserted is one of the most procedures done in urology departments, there are many indications for DJ catheters placement likes ureteral stone that led to obstructive pyelonephritis and intractable renal colic, and other indications are in transplant kidney and ureteric trauma [1].

Up to 80% of patients that DJ catheters inserted complained stent-related symptoms (irritative urinary symptoms, hematuria, lower abdominal pain, loin pain). Many medications like anticholinergic and alpha-1 antagonists to relief these symptoms and sometime change the type of stent and size the DJ catheters to relief these symptoms [2, 3].

MATERIAL AND METHODS

This study was conducted in Prince Hussein bin Abdullah between May 2018 and January 2021, all the patients previously healthy, medically free, and do not have any urinary symptoms before renal colic and DJ catheters inserted.

DJ catheters inserted under general anesthesia by rigid cystoscopy in a retrograde manner.

The patients randomly divided into two groups (group one (tamsulosin n: 1, group two (placebo) n: 2). The patients received drugs 4 weeks post DJ catheters insertion and evaluation of urinary symptoms were done by IPSS and stent discomfort by visual analogue score (VAS) and quality of life by IPSS-QoL.

All patients were followed in first, second, fourth weeks after drugs received and one week after remove DJ catheters for up to 3 months period of follow-up.

STATISTICAL ANALYSIS

The estimated P value was calculated by using Minitab 18 statistical software, ANOVA one-way, and Pearson's Chi-square tests for analyzing data and considering p value < 0.05 statically significant.

Approval for publication was given by our institution in Royal Medical Services ethical committee.

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RESULT

Regarding the demographic data (male: female ratio 2:1) were showed in table 1. Categorical data were shown in table 2. Variables in table 1 showed that no

significant differences between the two groups, while in table 2, there were significant differences in relation to categories between both groups. Significant P-value < 0.05.

Table 1: demographic data

Variables	Group1	Group2	P-value
Age range (years)	23-52	24-55	0.062
Male number	62	38	0.097
Female number	28	22	0.069
Stone size range (mm.)	8-13	6-11	0.083

Table 2: categorical data

Variables (n@%@)	Group1	Group2	P-value
irritative urinary symptoms	36\40%	32\53%	0.012
hematuria	51\56.6%	33\55%	0.071
lower abdominal pain	28\31%	42\70%	0.009
loin pain	43\48%	39\65%	0.036

N@: number of the patients. %@: percentage of patients regarding of the total number of patients in the same group.

DISCUSSION

The first time used ureteral stent nearly before three decades ago this stent used to relieve the obstruction dilated ureter after ureter re-implantation. Most of patients complaining of irritative urinary symptoms, hematuria, lower abdominal pain, and loin pain. All of these symptoms called stent syndrome.

Many attempts used to decrease this stent syndrome, one of these attempts used alpha-1 antagonists.

The alpha-1 antagonists used in benign prostatic hyperplasia, the alpha-1 antagonists reduced ureter and trigone smooth muscle activity, which relief of involuntary bladder contraction. These medications decreased IPSS and VAS but no effect on hematuria [3, 4].

In this study we noticed that regarding the demographic data there were no significant differences between both groups, but the differences were noted obviously in the categorical data in relation to the irritative symptoms, lower abdominal pain and loin pain

at the site of djc insertion while regarding the hematuria between both groups no significant difference was seen.

CONCLUSION

Alpha-1 antagonists can be recommended for relief of stent related urinary symptoms but had no effect on hematuria.

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