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OPTIMAL TIME FOR REMOVAL OF DJ STENT AFTER URETEROSCOPIC LITHOTRIPSY

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ABSTRACT: INTRODUCTION: Routinely we insert stent after Ureteroscopic lithotripsy; there is no consensus as such on the optimal time for removal of stent so as to reduce the stent related morbidity. **OBJECTIVE:** This study compares efficacy of stent removal in prevention of stent related morbidities after 1 week and 2 weeks after Ureteroscopic lithotripsy. **MATERIALS AND METHODS:** From august 2012 to July 2013, 85 patients with 5 to 18 mm ureteral stones undergoing URS using pneumatic lithotripsy were grouped into 2 groups alternatively. Group 1 (43 patients) stent removed after 1 week, and group 2 (42 patients) stent removed after 2 weeks. After discharge patients were asked to report either immediately if they develop flank pain and fever or on post-operative day 3, 7, and 15. **RESULTS:** The two groups were comparable in relation with the duration of stent removal, 2 out of 43 (Group 1) patients in whom stent removed on 7th day had flank pain which subsided with analgesics. **CONCLUSION:** This study demonstrates that removal of stent after 1 week is safe, but needs large scale prospective study.

KEYWORDS: DJ stent, optimal time, URSL.

INTRODUCTION: In 1978, Finney RP introduced double J (DJ) stent in to urological practice.¹ Since then DJ stent in evolutionary stage in order minimize its complications.^{2,3}

As these stents are temporary, the majority of ureteral stents require endoscopic removal, a necessity that is not often appreciated by patients. Aim of our study was to lessen the duration of stent which is kept after ureteroscopic lithotripsy in order to minimize morbidity associated with it.

MATERIALS AND METHODS: From August 2012 to July 2013, 85 patients with age group from 25 years to 35 years, both male and female, and solitary lower ureteral stones without renal stone, the size of stones ranges from 5 to 18mm were included in the study. URS done using 6/7.5 Wolf ureteroscope. None of the patients required balloon dilatation as all were received tablet silodocin 8mg daily for prior 10days. The stones were fragmented with pneumatic lithotripsy. Total stone clearance was achieved. At the end of the procedure no 5Fr DJ stent inserted.

They were grouped into two groups alternatively.

Group 1 included 43 patients in whom stent was removed after 1 week, and group 2 included 42 patients in whom stent removed after 2 weeks after ureteroscopic lithotripsy. After discharge patients were asked to report either immediately if they develop flank pain and fever on post-operative day 3, 7 and 15.

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RESULTS:

Distribution of patients	Group-1 N=43	Group-2 N=42	Chi-square test value	P Value
Age in Years				
25-35	15 (34%)	12(28%)	3.64	0.762
35-45	20 (46%)	27(64%)		
>45	08 (18%)	03(7%)		
Sex				
Male	26(60%)	26(61%)	0.3216	0.570
Female	16(37%)	16(38%)		
Size of Calculi				
5-9 mm	17(39%)	19(45%)	0.66	0.717
10-14mm	24(55%)	20(47%)		
15-18mm	02(4%)	03(7%)		

Table 1: Age, sex and ureteral stone size distribution of patients

There was no statistically significant difference between the two interventional groups with respect to age and sex distribution of study patients. Similarly there was no statically significant difference with respect to size of calculi among the patients of two interventional groups.

Outcome Variables	Group-1 N=43	Group-2 N=42	Chi-square test value	P Value
Pain				
Yes	2(4%)	0(0%)	1.977	0.159
No	41(96%)	42(100%)		
Haematuria				
Yes	0(0%)	0(0%)	-	-
No	43(100%)	42(100%)		
Irritative LUTS				
Yes	0(0%)	0(0%)	-	-
No	43(100%)	42(100%)		

Table 2: Outcome variables of two intervention groups

Outcome variables that we measured were the onset of flank pain, haematuria and irritative LUTS. There was no statistically significant difference between two intervention groups with respect to flank pain after the procedure. Similarly there was no event of haematuria or irritative LUTS in both the groups.

DISCUSSION: To minimize complications studies have been done in the past like record keeping in the form of log books, stent card to the patients.⁴ Computer based stent registry is the recent one.⁵

Only one study available in literature on optimal duration of stent after ureteroscopic lithotripsy is by Shigemura et al⁶ demonstrates that removal of stent in less than 14 days after ureteroscopic lithotripsy may decrease adverse events and less antibiotic use. Our study was still lesser than 14 days i.e., 1 week.

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CONCLUSION: As there is no Randomized control trial suggesting and proving efficacy of stents kept for longer/shorter duration being safer, our study demonstrates that stent removal duration has got no significant role with the associated complications after ureteroscopic lithotripsy. However needs long term prospective study.

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