

TUBELESS VERSUS STANDARD PERCUTANEOUS NEPHROLITHOTOMY AT DUHOK PROVINCE, KURDISTAN, IRAQ

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ABSTRACT

Background: Urolithiasis is one of the common diseases of human being. The introduction of endoscopic and minimally invasive procedures [extra corporeal shock wave lithotripsy (ESWL), percutaneous nephrolithotomy (PCNL), and Ureteroscopy] has revolutionized the treatment of stone disease. Percutaneous nephrolithotomy is the gold standard for the treatment of renal calculi. Recently, modifications to the standard PCNL regarding tube placement have evolved. This study aimed to evaluate the safety, benefits and feasibility of tubeless PCNL in comparison to the standard PCNL.

Subject and Methods: Fifty patients were prospectively randomized equally into two groups, group 1 (tubeless PCNL) and group 2 (standard PCNL). All patients underwent PCNL for the treatment of upper urinary tract stones. The operations were done under general anesthesia with antimicrobial cover; of them 29 were males and 21 were females. In group 1, 25 patients had no nephrostomy tube placed while in group 2, 25(50%) patients had nephrostomy tube. We evaluated and compared between both groups in operative time, length of hospitalization, analgesic requirements; stone free rate and post-operative complications (infection or blood transfusion).

Results: Thirty-one patients (62%) in both groups had a single stone, while 19 patients (38%) had multiple stones. PCNL alone was successful in completely clearing all the stone(s) in (88%) of patients, while 5 patients (10%) were treated by ESWL and one patient required another session of PCNL. The mean operative time for group 1 was 56.72 minutes vs. 77.0 minutes for group 2. The mean hospital stay was 1.2 days and 2.32 days in group 1 and group 2 respectively. Only 12% of group1 needed more than 2 analgesia (injectable), while 52% of group2 needs more than 2 analgesia (injectable). Blood transfusion was required in one patient (4%) of each group.

Conclusions: Tubeless PCNL is a safe and effective procedure with advantage of short hospital stay and lesser analgesic requirement without increasing complications.

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Keywords: calculi, standard and tubeless PCNL.

Until 1970 the patients with renal stones should have an open surgery with a big loin incision, to get access to the kidney, the surgery needs long anaesthesia, 3 days of hospitalization and significant discomfort¹. After a long period of practice (more than 30 years), PCNL became one of the most important approach for treatment of renal stones with a very good success rate and relatively lower rate of major

complications².

The patients with large renal calculi or those resistant to ESWL are the candidate of PCNL³. Therefore, the indications of PCNL are Staghorn calculi⁴, lower pole calculi of >10 mm due to poor outcome with ESWL⁵. Moreover, PCNL also indicated in patients with anatomical abnormalities that interfere with ESWL results, as morbid obesity and

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musculoskeletal deformity^{4,6}, hard (Cystine) stones⁶, previous ESWL and ureteroscopy failures^{4,5,6}.

However, PCNL has several contraindications like patient with non-correctable coagulopathy^{7,8}, pregnancy^{7,8}, untreated UTI. The presence of concomitant diseases is another contraindication of PCNL such as diabetes, severe pulmonary disease or cardiovascular disease; and infected stones. The difficulty of the procedure will be increased in patients with gross obesity, spinal deformity, branched collecting system, and mal-rotated kidney. Staghorn stones are associated with more complications⁹.

Nevertheless, the complications of PCNL may be access related complications like acute haemorrhage, delayed haemorrhage^{10,11,12}, collecting system injury¹⁰ and visceral injuries^{13,14}. Fever and sepsis, metabolic and physiological complications, neuro-musculoskeletal injuries, venous thromboembolism and tube dislodgment are other complications of PCNL^{10,15, 16}. To prevent these complications preoperative full imaging evaluation of the access to the calyx and under ultrasound guidance if possible. Moreover, dilation under fluoroscopy with very gentle movement of nephroscope during procedure with use of flexible nephroscope for extraction of stone fragments in upper calyx and knowing the limits of procedure. Tubeless PCNL was recently revised to decrease patient morbidity and shorten hospital stay¹⁷.

The aim of the study: to determine benefits, safety and feasibility of tubeless PCNL.

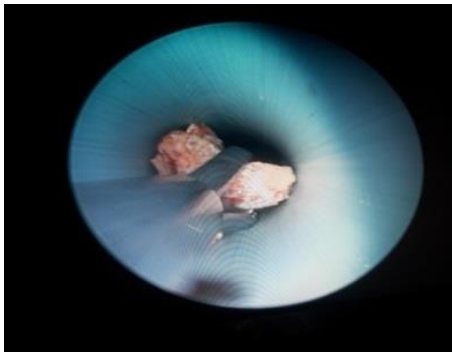
PATIENTS AND METHODS

Selection criteria: The study was performed as a prospective case control. The cases were collected in Duhok hospitals (Azadi Teaching and Vajeen private Hospitals) during the period from June 2011 to October 2013. A total of 50 patients (29 males and 21 females) were included in the study and divided into two groups, group 1 (tubeless) and group 2 (standard). Exclusion criteria for this study were age <15 years, single kidney, stone ≥ 35 mm, renal impairment and those who need more than three access ports.

Preoperatively all cases were evaluated by detailed history, physical examination, laboratory investigations. Imaging studies, include renal ultrasonography, KUB, IVU or CT scan. Data on stone(s) size, number, and stone burden were determined on the preoperative KUB and IVU. The stone burden was calculated by multiplying the longitudinal and transverse diameters of each stone. Two units of compatible blood were prepared for each patient. Informed consent was taken from the patients.

The Technique of PCNL: All 50 patients were given general anaesthesia. Initially, a lithotomy position was used and a 6 F open end ureteric catheter was placed trans-urethrally via cystoscopy. The position of the ureteric catheter was checked by fluoroscopy and fixed to a Foley's catheter. Contrast material (Meglumine compound 76%) was injected to identify the pelvicaliceal system, then the patient was changed to prone position. The standard operative technique of PCNL consists of three main steps: Percutaneous puncture of pelvicalyceal system, development of tract, and fragmentation/removal of stone/ stones.

The whole procedure was done by the urologist. Under biplanar C-arm fluoroscopic guidance, with the patient lying in prone position the access to the calyx is done by an 18 G needle. After confirmation of the position of the needle by urine aspiration, a 0.38" guide-wire with a soft tip was inserted to pelvicaliceal system or ureter (if possible) the needle was removed after that. The dilatation of the tract was done using metal coaxial dilators or semi-rigid plastic dilators and followed by a 30 Fr Amplatz sheath. A24 Fr nephroscope was used for detection of stones using normal saline irrigation. Then Small stones were removed using grasper forceps and big stones were fragmented using Swiss Lithoclast and their fragments were cleared up as shown in figure 1.



B



A

Figure-1: shows stone grasper and stones fragments. A- Showing stone removed by stone grasper with in sheath. B- Staghorn stone after fragmentation and extraction.

The mean operation time (from the induction of anaesthesia including time required for establishing the tract, stone fragmentation and retrieval to the application of the pressure dressing at the skin incision site.) was 67.3 minutes (56.72 in group 1 vs. 77min in group 2).

At the end of the procedure the stone clearance was confirmed by endoscopy and fluoroscopy, and the ureteric catheter was removed. In group one after removal of the amplatz sheath the wound was compressed for 2 min and then sutured with one stitch non absorbable suture followed by dressing without putting nephrostomy tube. While in group 2 a nephrostomy tube was positioned through the Amplatz sheath and fixed to the skin and the nephrostomy was clamped for 12h.

Postoperative treatment and follow up:

Postoperatively all patients were given parenteral antibiotics (3rd generation cephalosporin) and IV fluid.

Temperature chart and pain was managed with 75 mg intramuscular diclofenac sodium. These drugs were given to the patients on need, and the amount of analgesics given was recorded. The urethral Foley catheter in both groups was removed after 12–24 hours, once the urine was cleared.

Abdominal ultrasound and a plain abdominal film were done on the first day, to confirm the stone free status and to exclude the presence of urinoma. After 12 hours, the nephrostomy tube was de-clamped for 24 hours and then removed. A complete blood count was done on the first post-operative day to determine the decrease in haematocrit.

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RESULTS

From June 2011 to October 2013, of 50 patients who had PCNL at Azadi teaching and Vajeen private hospitals, 25 had TPCNL and 25 had SPCNL; their

demographics are listed in (Table 1). The two groups had comparable demographic data.

Table1: The patients' demographic and clinical data in both groups

		No. of Patient		Percentage		P Value
		Group 1	Group 2	Group 1	Group 2	
Sex	Male	15	14	60%	56%	
	Female	10	11	40%	44%	
Site	Right	12	11	48%	52%	
	Left	13	14	44%	56%	
Age in years		34.6	36.16			0.552
Stone Size		22.72mm	22.32mm			0.424
# of Stones	Single	16	15			0.684
	Multiple	9	10			
# of Accesses	One	24	24	96%	96%	
	Two	1	1	4%	4%	

The mean value of cumulative stone burden was 2.15 cm² (range, 1cm² - 3.5cm²) (20.7 in TPCNL vs. 22.3mm in SPCNL). The operation was considered successful if the patient was either free of stones or had non-complicated residual fragments of <4 mm in the largest

dimension on renal ultrasonography and/or radiography. Five patients with larger residual fragments were treated with ESWL (two. in group 1 vs. three in group 2). One patient in group 2 needed second PCNL session as shown in (Table 2).

Table 2: Shows differences of hospitals stay, analgesic requirement, the outcomes during and after surgery, and stone-related data in both groups.

Different parameters	Group 1	Group 2	P value
Analgesic requirement/ injection ≤150mg	22	12	
Mean analgesic requirement	120 mg	172 mg	0.001
Operative Time	56.72 min	77.min	0.484
Stone Free	90%	86%	0.440
Residual Stone	(2 Pt.) 4%	(4 Pt.) 8%	
Fragments <4mm	(3 Pt.) 6%	(3 Pt.) 6%	
Second PCNL	0Pt.	1Pt.	
Hospitals stay ≤ 48h.	24	15	
Mean stay	1.2 days	2.3 days	0.001

Complications were also observed as demonstrated in (Table 3). All patients had haematuria postoperatively and treated

conservatively. Two patients (4%) required transfusion due to significant haematuria, one in each group. Four

patients (8%) developed high fever, three of them due to documented UTI postoperatively and have been treated by antibiotics and hydration. No

extravasations of fluid or urinoma have been reported. There was no hydrothorax or hemothorax, no organ injury and no mortality has been reported in our series.

Table 3: shows the complications of PCNL.

Complications in PCNL		No. Of Patients in group 1	No. Of Patients in group 2	Total % in Both groups
Blood transfusion needed		1(2%)	1(2%)	4%
Fever	Pyelonephritis	2(4%)	1(2%)	6%
	Unknown causes	-	1(2%)	2%
Hydrothorax		0	0	0%
Urinoma		0	0	0%

DISCUSSION

Standard PCNL is followed by nephrostomy tube drainage. The advantages of which include acute compression of the tract to stop bleeding, and using the same tract for check nephroscope if required¹⁸.

Tubeless PCNL was promoted by Bellman et al. in 1997 and consists of PCNL with no nephrostomy at the end of procedure¹⁹. It is usually advocated in patients with normal renal function, single tract access with complete clearance, and no intraoperative complications. The safety of tubeless procedure has been confirmed in various series^{20,21,22}. Ureterscopy and ESWL are the predominant methods for treating urolithiasis in addition to PCNL, which continues to be important²³.

Renal stone disease is the ailment of young peoples^{18,24}, and this was observed in the present study where the mean age of patients with stones was 35.38 years. PCNL has advantages as it causes minimal renal injury and maximizes stone clearance, especially in patients with complex stone disease²³. Overall clearance was defined as complete clearance with no

evidence of clinically significant residual fragments on renal ultrasonography and/or radiography. Complete clearance in this study was 88% which is comparable with different studies conducted by Hemendra et al, Percy Jal et al and Ziaee et al, whose results for stone clearance were 89%,87% and 88% respectively^{25,26}.

The mean operative time of the tubeless group was shorter than that of the standard PCNL group (57.6 min and 77 min) in accordance with difference in stone burden between two groups. This finding is comparable to studies of Karami H et al (60 min) and Mahmoud M et al (80 min) correspondingly^{27,28}. While this time is longer than time reported by Hemendra et al (52.3 and 68.8 min) this may be owing to the fault in calculation of the time of surgery. The success rate (stone free + stone fragments <4mm) in this study is 94% in all patients (96% in group 1 and 92% in group 2). These findings were similar to the studies of Delnay KM et al, (94%)²⁰, Yang RM et al(94.5%)²⁹ and Hemendra et al (95.2 in TPCNL V 94.8% in SPCNL) (95%range)²⁴.

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The mean duration of hospital admission period in this study was 1.2 days in TPCNL, against 2.32 days in SPCNL. These findings are near the results of Hemendra et al, Aghamir et al, and Kara C et al, which were(1.4 vs. 2.35 days 1.49 vs. 2.89 days and 1.5 vs. 3.2 days) respectively^{24,30,31}.

The number of patients with postoperative analgesic requirement was also significantly higher in SPCNL^{32,33,34}. Our study reported that the mean analgesic requirement was (123mg in TPCNL vs.

174mg/ case in SPCNL).

These results were close to the results reported by Mustafa et al³⁵, (131.3mg in TPCNL vs. 174.5mg/case SPCNL).

There is no so difference in complications between two groups in this study, same ideas agreed by Sang et al and Salavati A. et al^{34,36} as shown in Table 4. Totally tubeless PCNL is safe and well tolerated in selected patients and associated with decreases in the length of hospital stay, postoperative pain and analgesia requirement^{18,20}.

Table 4: Showing the complications comparison of present study to other studies

Complications	Present study	Other studies
Blood transfusion	4% TPCNL	2.02% TPCNL Guido et al ³⁸
	4% SPCNL	5.4% SPCNL Guido et al ³⁸ 4% TPCNL Mustafa et al ³⁵ 5.6% SPCNL Mustafa et al ³⁵
Fever	8% TPCNL	6.2% TPCNL Hemendra et al ²⁴
	8% SPCNL	11.4% SPCNL Hemendra et al ²⁴
Urinoma	0% in both Groups	0% TPCNL Hemendra et al ²⁴
		0.3% SPCNL Hemendra et al ²⁴
		0% Shah et al ¹⁷
Hydrothorax	0% in both Groups	0% Lee et al ³⁷
		2.5% Hemendra et al ¹⁷ (supracostal access)

Omitting placement of nephrostomy in selected patients did not result in serious complications. Also, the tubeless approach offered significant advantages in terms of reduced amount of analgesics and less discomfort and shorter hospital stay.

REFERENCES:

1. Wickham JEA. Treatment of urinary tract stones. *BMJ* 1993; 307: 1414-7.

2. Khan S, Toori LA, Anwer K. The efficacy of percutaneous nephrolithotomy in renal and upper ureteric calculi. *Pakistan J Med Res* 2005; 44: 89-91.
3. Marshall L. Stoller, MD. Urinary Stone Disease. In: Emil A. Jack W. McAninch editor. *Smith General Urology*. 17th edition. LANGE.2008:16:246-277.
4. John J. Pahira, MD. And Millie pevzner, MD. Nephrolithiasis. In: Philip M, Alan J, Bruce S. editors.

- Penn Clinical Manual of Urology. Vol 1. Saunders Elsevier, 2007; 8: 235-257.
5. Lingeman JE, Matlaga BR, Evan AP. Surgical management of upper urinary tract calculi. In: Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA, editors. Campbell – Walsh Urology. 9th ed. Vol. 2. Philadelphia: Saunders Elsevier; 2007. P. 1431-5
 6. Rudnick DM, Bennett PM, Dretler SP. Retrograde renosopic Fragmentation of Moderate Size (1.5-3.0cm) renal cystine stone. J Endourol 1999; 13: 483-5.
 7. Steven B. Steem and J. Stephen Jone. Renal Calculus Disease. In: Andrew C. Novich, J. Stephen, editors. Operative Urology at Cleveland clinic. 1st edition, Humana Press. 2006; 6: 65-88.
 8. Mark F, Kevin T. Stone Disease- Percutaneous nephrolithotomy. In: John RE, Stephen Mark, Noel AR, Kevin TU, Mark FE, Mark SU, editors. Urological Surgery. OXFORD University Press. 2008; 416-431.
 9. Michel MS, Trojan L, Rassweiler JJ. Complications in Percutaneous Nephrolithotomy. Eur Urol 2007; 51: 899-906.
 10. J. Stuart Wolf, Jr upper urinary trac., MD, FACS. Percutaneous Approaches to the Upper Urinary Tract Collecting System. In: Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA, editors. Campbell – Walsh Urology. 10th ed. Vol. 2. Philadelphia: Saunders Elsevier; 2012. P. 1023-1752.
 11. Kessarar DN, Bellman GC, Pardalidis NP, Simth AG, Management of hemorrhage after percutaneous renal surgery. J Uro 1995; 153: 1097-1100.
 12. Martin X, Murat FJ, Fietosa LC et al. Severe bleeding after nephrolithotomy: result of hyperselective embolization. Eur Uro 2000; 37: 136—9.
 13. LeRoy AJ, Williams HJ Jr, Bender CE, Segura JW, Patterson DE, Benson RC. Colon perforation following percutaneous nephrostomy and renal calculus removal. J Radiology 1985; 155: 83-85.
 14. Pardalidis N, Smith AD. Complications of Stone Treatment. In: Contraversis in Endourology, ed. Smit AD. Philadelphia, PA: WB Saundes, 1995; pp 179-85.
 15. Carson CC, Nesbitt JA. Peritoneal extravasation during percutaneous lithotripsy. J Urology 1985; 134: 725.
 16. Dimberg M, Norlen H, Hoglund N, Allgen LG. Absorption of irrigating fluid during percutaneous transrenal lithotripsy. Scand J Urol Nephrol 1993; 27: 463.
 17. Hemendra N. Shah, Vikram B. Kausuk, Sunil S. Hagde, Jignesh N. Shah and Manish B. Bansal. Tubeless percutaneous nephrolithotomy: a prospective feasibility study and review of previous reports. BJU 2005; 879-883.
 18. Shashikant Mishra, Ravindra B. Sabnis, Abraham Kurien, Arvind Ganpule, Veeramani Muthu and Mahesh Desai. Questioning the wisdom of tubeless percutaneous nephrolithotomy (PCNL): a prospective randomized controlled

- study of early tube removal vs tubeless. *BJU*; 2010;106, 1045–1049.
19. Bellman GC, Davidoff R, Candela J, Gerspach J, Kurtz S, Stout L. Tubeless percutaneous renal surgery. *J Urol*1997; 157: 1578–82.
 20. Delnay KM, Wake RW. Safety and efficacy of tubeless percutaneous nephrolithotomy. *World J Urol*1998; 16: 375–7-8.
 21. Jou YC, Cheng MC, Sheen JH, Lin CT, Chen PC. Cauterization of access tract for nephrostomy tube-free percutaneous nephrolithotomy. *J Endo Urol* 2004; 18:547–9
 22. . Aghamir SM, Hosseini SR, Gooran S. Totally tubeless percutaneous nephrolithotomy. *J Endourol*2004; 18:647.
 23. Kim SC, Kuo RL, Lingmen JE, Percutaneous nephrolithotomy: an up date. *Current opinion Urol*. 2003;13:235-341.
 24. . Hemendra Shah, Amit Khandkar, Hiren Sodha, Shabbir Kharodawala, Sunil Hegde* and Manish Bansal. Tubeless percutaneous nephrolithotomy: 3 years of experience with 454 patients. *BJU*, 2009; 104: 840–846.
 25. Percy Jal Chibber. Percutaneous nephrolithotomy for 1-2 cm lower-pole renal calculi. *Indian J Urol*. 2008 Oct-Dec; 24(4): 538.
 26. Ziaee SAM, Abdolla N, Basiri A, Simforoosh N, Danish AK, Sharifi Aghdas F, Tabibi A. PCNL in the Management of Lower Pole Caliceal Calculi. *Urology Journal*. 2004;Vol. 1, No. 3, 174-176.
 27. Karami H, Gholamrezaie HR. Totally tubeless percutaneous nephron-lithotomy in selected patients. *J Endourol*2004; 18:475–6
 28. . Mahmoud M Shalaby, Medhat A Abdalla, Hassan A Aboul-Ella, Abdel Monem. A El-haggagy and Alaa A Abd-Elsayed .Single puncture percutaneous nephrolithotomy for management of complex renal stones. *BMC Research Notes* 2009, 2:62
 29. . Yang RM, Bellman GC. Tubeless percutaneous renal surgery in obese patients. *Urology*2004; 63: 1036–40.
 30. . Aghamir SM, Modaresi SS, Aloosh M, Tajik A. Totally tubeless percutaneous nephrolithotomy for upper pole renal stone using subcostal access. *J Endourol*. 2011 Apr;25(4):583-6.
 31. . Kara C, Resorlu B, Bayindir M, Unsal A. A randomized comparison of totally tubeless and standard percutaneous nephrolithotomy in elderly patients. 2010 Aug;76(2):289-93.
 32. . Gonulalan U, Cicek T, Istanbuluoglu O, Kosan M, Ozturk B, Ozkardes H. Tubeless percutaneous nephrolithotomy is effective and safe in short- and long-term urinary drainage. *Urolithiasis*. 2013 Aug;41(4):341-6.
 33. . Jiawu Wang, Chunlei Zhao , Chengyao Zhang , Xiaodong Fan, Yanjun Lin and Qing Jiang. Tubeless vs standard percutaneous nephrolithotomy: a meta-analysis. *BJU*. 2011; 109, 918–924.
 34. Sang Cheol Lee, Chang Hee Kim, Kwang Taek Kim, Tae Beom Kim, Khae Hawn Kim, Han Jung, Sang Jin Yoon, and Jin Kyu Oh. Is Tubeless Percutaneous Nephrolithotomy a

- Feasible Technique for the Treatment of Staghorn Calculi? Korean J Urol. 2013 October; 54(10): 693–696.
35. Mustafa Kirac, Abdulkadir Tepeler, Omer Faruk Bozkurt, Fatih Elbir, Cem Ozluk, Abdullah Armagan, Ali Unsal, and Hasan Biri . The Efficacy of Bupivacaine Infiltration on the Nephrostomy Tract in Tubeless and Standard Percutaneous Nephrolithotomy: A Prospective, Randomized, Multicenter Study. UROLOGY 2013,82: 526-531.
36. . Salavati A,Aghamir SM, Aloosh M, Farahmand H, Meysamie A, Pourmand G. Feasibility of totally tubeless percutaneous nephrolithotomy under the age of 14 years: a randomized clinical trial. J Endourol. 2012 Jun;26(6):621-4.

نوخته

دەرئیخستنا بترکین طولزیسکی ب تله سکوبی ب ریکا ئیستی بیی ضارضوطی لوله کی بترورد
دطه ل بیی ئیظای دضاره سترکرنا بترکین طولزیسکی ل نه خوشخانا دهوک

پیش هکی و نارماتج: بترکین طولزیسکی ذ نه خوشیین بتر به لاطه لنگ مروظی و ئیخستنا تله سکوبان نو شیوازیین کیمتر زیاندهر طه شه کرنهک دضاره سترکرنا ظان نه خوشیان ئیداکر. دەرئیخستنا بترکین طولزیسکی ب تله سکوبی ب ریکا ئیستی ضاره ستریکه سترهکیه بو بترکین طولزیسکی. بو ههلسه تاندا کاریطه ریا تله سکوبیه ب ریکا ئیستی بو دەرئیخستنا به رکیین طولزیسکی بیی ضارضوطی لوله کی ب بترورد ب دەر ئیخستنا بترکین طولزیسکی ب تله سکوبی ئیظای .

رئکین فهکولین: نه ف طه کولینه ل نه خوشخانین دهوکی هاته کرن ل سه ر (50) نه خوشان . ب شیوه کی به ره لایی بو دوو به شین وهک هه ظ هاتنه دابه شکرن , به شنی ئیکی (بیی ضارضوطی لوله کی) و به شنی دووی (ئیظای) . هه می نشترطه ری لذر بی هسکر نهکا طه شتی و هه ظدذین کا ریطه هاتنه کرن . ذوان 29 زه لام بوون وین دی (21) ذ ئافه تان بوون . نشترطه ری بیی ضارضوطی لوله کی هاته کرن (کومه لائیکی) بو 25 (%50) , لی 25 (%50) ذ نه خوشان , نشترطه ری ب ریکا ئیظانی بو هاته کرن (کومه لا دووی) . دطه کولینیدا مه دهمی نشترطه ری خه ملاند , دهمی نظسنی ل نه خوشخانیه , ئیدظیکرن ب تهاکرنا , سجا به رت قورتالبوون ذ بترکان و دودانظین تهنی نشترطه ری.

ئهنجام: سیه ونیک نه خوش (62%) توشی ئیک بترک ببوون لی 19(38%) نه خوشان تتر ذ به رکه کی هه بوون . ریذه یا قورتالبوون ذ به رکیین طولزیسکی ب شیوه کی دوماهیی ب تله سکوبی ب ریکا ئیستی (88%) بوو. ئیکراییه نظسن ل نه خوشخانیه 1,2 روذ بوون ذ کومه لا ئیکی به رامیه ری وئ (کومه لا دووی) 2,32 روذ بوون. 12% ذ کومه لا ئیکی تترذ دوو جارن ئیدظی ب ته نا کرنا ن بوون (کوتاندن) .

دهرئهنجام: نشترطه ریا دەرئیخستنا بترکین طولزیسکی ب ته له سکوبی ئیستی بیی ضارضوطی لوله کی نشته رطه ریه کا کاریطه رو دروسته دطه ل مفا وه رطرتن ذ کیمیا دهمی نظسنی ل نه خوشخانیه وبرا تهاکرنین دهینه بکارئینان , بیی طوه ورینه کا بترضاظ بو دودانطان.

الخلاصة

أستخراج حصيات الكلية بواسطة المنظار عن طريق الجلد بدون الإطار الانبوبي مقارنة مع القياسي في مستشفيات دهوك

الخلفية والهدف:

حصيات الكلية تعتبر من الامراض المنتشرة لدى البشر, وإدخال المناظير والاساليب الاقل ضررا احدث تطورا في علاج هذه الامراض. استخراج حصيات الكلية بواسطة المنظار عن طريق الجلد هو العلاج الاساسي لحصيات الكلية. لتقييم فعالية المنظار عن طريق الجلد في إستخراج حصيات الكلية بدون الإطار الانبوبي مقارنة بالمنظار القياسي.

طرق البحث:

اجريت هذه الدراسة في مستشفيات دهوك على 50 مريضا, وزعوا بصورة عشوائية الى قسمين متعادلين, القسم الاول(بدون الإطار الانبوبي) والقسم الثاني (القياسي). اجريت العمليات جميعها تحت التخدير العام و المضادات الحيوية, منهم 29 كانوا رجالا والباقي 21 كانوا نساء. اجريت العملية بدون الإطار الانبوبي (المجموعة الاولى) ل 25(50%) بينما 25(50%) من المرضى اجريت لهم العملية بالطريقة القياسية(المجموعة الثانية).من خلال البحث قمنا بتقدير وقت العملية, مدة الرقود في المشفى,الإحتياج للمسكنات,نسبة التخلص من الحصيات و المضاعفات بعد العملية.

النتائج: واحد وثلاثون مريضا(62%) كانت لديهم حصة واحدة,بينما 19(38%) مريضا كانت لديهم اكثر من حصة. نسبة التخلص من حصيات الكلية بصورة نهائية بواسطة المنظار عن طريق الجلد (88%). معدل الرقود في المشفى كان 1.2 يوما في المجموعة الاولى,في المقابل(المجموعة الثانية)2.32 يوما . 12% من المجموعة الاولى إحتاجوا الى اكثر من مرتين من المسكنات (المزروقة),بينما 52% من المجموعة الثانية إحتاجوا الى اكثر من مرتين من المسكنات (المزروقة).

الاستنتاجات:

عملية استخراج حصيات الكلية بواسطة المنظار عن طريق الجلد بدون الإطار الانبوبي هي عملية فعالة وسليمة مع الإستفادة من تقلص مدة الرقود في المشفى وكمية المسكنات المستعملة ,دون تغير ملحوظ للمضاعفات.