



## Outcomes of Large Bore Vs Small Bore Percutaneous Nephrolithotomy

Jawariya Arooj<sup>1</sup>, Aneza Akram<sup>2</sup> and Mamoona Suleman<sup>3</sup>

<sup>1</sup>WMO in BHU Gujranwala

Email address: [jawariyaarooj97@gmail.com](mailto:jawariyaarooj97@gmail.com)

<sup>2</sup>Women medical officer

[anezaakram329@yahoo.com](mailto:anezaakram329@yahoo.com)

<sup>3</sup>WMO in THQ Dunyapur

Email address: [mamoona2020@gmail.com](mailto:mamoona2020@gmail.com)

### ABSTRACT

**Objective:** To determine postoperative results of large bore vs small bore PCNL.

**Design and duration:** This is a prospective study. It was started in November 2018 and completed in April 2019 after 6 months duration.

**Setting:** Study was conducted in Kidney center of Bahawal Victoria Hospital Bahawalpur.

**Patients and Methods:** Patients having kidney stones and ideal for PCNL were distributed in two groups in randomized way. Group-1 patients underwent small bore PCNL and those in group-2 underwent large bore PCNL. There was equal number of cases in each group. Both male and female patients were included in the study. Mean duration of stay in hospital was  $7\pm 3$  days. All data collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages. Tables and Graphs used to present data. Consent was taken from ethical committee of the study hospital and consent was also taken from all cases in study group.

**Results:** There were total 90 cases in this study distributed in two groups each containing 45 cases. There were 37 female and 63 male cases. Mean age of patients was  $33.5\pm 5$  years. Mean anesthesia time was  $1.5\pm 0.5$  hours in both groups. Mean analgesia given in group-1 was  $100\pm 50$  mg.

**Conclusion:** In our study small bore PCNL was proved to be better than large bore PCNL associated with least complications and early recovery with less hospital stay and less use of analgesia.

**Key Words:** PCNL, renal stone, small bore, percutaneous, outcomes

### INTRODUCTION

Renal stones are very common among Pakistani population due to lack of pure water. It is very frequent in peripheral and rural areas which are underdeveloped. In big cities as well pure water is not available. Renal stones have high prevalence in our population and males are more reported with renal stones than female population. Open nephrolithotomy has high rate of complications and is being replaced by a new method of percutaneous nephrolithotomy with least complications. PCNL is

done either via small bore, large bore or tubless technique. In our study we compared results of small bore vs large bore pcnl. Renal stones are very common among Pakistani population due to lack of pure water. It is very frequent in peripheral and rural areas which are underdeveloped. In big cities as well pure water is not available. Renal stones have high prevalence in our population and males are more reported with renal stones than female population.

### Patients and Methods

This is a prospective study conducted in a tertiary hospital Bahawal Victoria Hospital Bahawalpur. Study was completed in six months duration. Patients were selected via randomized controlled trials. Patients having kidney stones and ideal for PCNL were distributed in two groups in randomized way. Group-1 patients underwent small bore PCNL and those in group-2 underwent large bore PCNL. There was equal number of cases in each group. Both male and female patients were included in the study. Mean duration of stay in hospital was  $7\pm 3$  days. All data collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages. Tables and Graphs used to present data. Consent was taken from ethical committee of the study hospital and consent was also taken from all cases in study group.

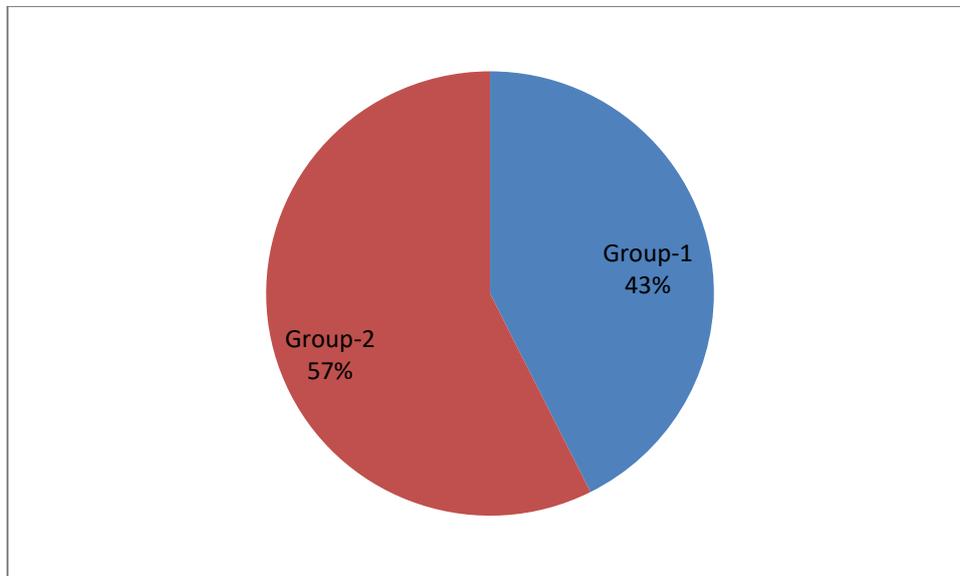
### Results

There were total 90 cases in this study distributed in two groups each containing 45 cases. There were 37 female and 63 male cases. Mean age of patients was  $33.5\pm 5$  years. Mean anesthesia time was  $1.5\pm 0.5$  hours in both groups. Mean analgesia given in group-1 was  $100\pm 50$  mg. Patients having kidney stones and ideal for PCNL were distributed in two groups in randomized way. Group-1 patients underwent small bore PCNL and those in group-2 underwent large bore PCNL. There was equal number of cases in each group. Both male and female patients were included in the study. Mean duration of stay in hospital was  $7\pm 3$  days. All data



collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages.

There were 34% cases between 15-25 years, 20% between 26-35 years, 30% cases between 36-50 years and 14% cases were above 50 years age.



(Figure-1) frequency of Complications among cases in group-1 and group-2

## DISCUSSION

Open nephrolithotomy has high rate of complications and is being replaced by a new method of percutaneous nephrolithotomy with least complications. PCNL is done either via small bore, large bore or tubless technique. In our study we compared results of small bore vs large bore pcnl. Renal stones are very common among Pakistani population due to lack of pure water. It is very frequent in peripheral and rural areas which are underdeveloped. In big cities as well pure water is not available. Renal stones have high prevalence in our population and males are more reported with renal stones than female population. Renal stones are very common among Pakistani population due to lack of pure water. It is very frequent in peripheral and rural areas which are underdeveloped. Mean duration of stay in hospital was  $7 \pm 3$  days. All data collected was analyzed using SPSS and Microsoft office version 2016. Results were calculated in the form of frequencies and percentages and averages. There were 34% cases between 15-25 years, 20% between 26-35 years, 30% cases between 36-50 years and 14%

cases were above 50 years age. In big cities as well pure water is not available. Renal stones have high prevalence in our population and males are more reported with renal stones than female population. Open nephrolithotomy has high rate of complications and is being replaced by a new method of percutaneous nephrolithotomy with least complications. This is a prospective study conducted in a tertiary hospital Bahawal Victoria Hospital Bahawalpur. Study was completed in six months duration. Patients were selected via randomized controlled trials. Patients having kidney stones and ideal for PCNL were distributed in two groups in randomized way. Group-1 patients underwent small bore PCNL and those in group-2 underwent large bore PCNL. There was equal number of cases in each group. Both male and female patients were included in the study. Mean duration of stay in hospital was  $7 \pm 3$  days.

**Conclusion:** In our study small bore PCNL was proved to be better than large bore PCNL associated with least complications and early recovery with less hospital stay and less use of analgesia.

## REFERENCES

1. Jamil A, Iqbal N, Nasir JM, Hussain S, Chughtai MN. To evaluate the efficacy of extra corporal shockwave lithotripsy and study the consequent complication in the management of renal lithiasis JAIMC 2001, 1:10-4.



2. Rana A M, PCNL As **most effective monotherapy for large Renal stone**. Medical Channel 2005;11:2:23-5
3. Mandhani A, Goyal R, Vijjan V, Dubey D and Kapoor R. **Tubeless percutaneous nephrolithotomy should a stent be an integral part?**. J urol 2007; 178: 921-4.
4. Wickham JEA, Miller RA, Kellett MJ, Payne SR. **Percutaneous nephrostolithotomy: one stage or two?** Br J Urol 1984; 56: 582-4.
5. Winfield HN, Weyman P, Clayman RV. **Percutaneous nephrostolithotomy: complications of premature nephrostomy tube removal**. J Urol 1986; 136: 77-9.
6. Limb J, Bellman GC. **Tubeless percutaneous renal surgery: review of first 112 patients**. Urology 2002; 59: 527-31.
7. Desai MR, Kukreja RA, Desai MM, Mhaskar SS, Wani KA, Patel SH, Bapat SD. **A prospective randomized comparison of type of bore nephrostomy drainage following percutaneous nephrostolithotomy: large versus small bore versus tubeless**. J Urology 2004;172:565-7.
8. Crook TJ, Lockyer CR, Keoghane SR and Walmsley BH. **A randomized Trial of nephrostomy placement versus Tubeless percutaneous nephrolithotomy**. JUrol 2008; 180: 612-4.
9. Basiri A, Ahmadania H and Moghassam SMMH. **The efficacy of conventional PCNL with two of its modified procedure**. JPMA 2006;56(7):302-5.
10. Shah HN, Kausik VB, Hegde SS, Shah JN and Bansal MB. **Tubeless percutaneous nephrolithotomy: a prospective feasibility study and review of previous reports**. BJU 2005;96(6):879-83.
11. Ziaee SA and Kazemi B. **A Study of febrile versus Afebrile patients after PCNL regarding bacterial etiologic factors through blood and urine cultures and 16S rRNA detection in serum**. J-Endo Urol 2008; 22(12):2717-21.
12. Gonen M, Turan H, Ozturk B and Ozkardes H. **Factors Affecting fever following PCNL: A prospective Clinical study**. J-Endo Urol 2008; 22(9): 2135-8.