

# MP55 - 11 - Supine percutaneous nephrolithotripsy in septuagenarian and octogenarian patients: outcomes of a case-control study

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## Introduction and objective:

- Percutaneous nephrolithotomy (PCNL) is classically performed in prone position, however, in the last decades, supine PCNL has been shown to be equally effective in some group of patients, while it may be more desirable anesthesiologically.
- A higher complication rate from PCNL in elderly patients (> 70 year-old) has been reported when compared to younger subjects, such as bleeding, collecting system perforation, infectious, and longer length of hospital stay. All these findings are based on studies where the majority of PCNL were performed in prone position.
- The purpose of this study was to evaluate and compare supine PCNL stone-free and complication rates in this particular group of patients with outcomes of supine PCNL in younger subjects with same stone complexity.

## Methods:

- A retrospective case-control study was conducted from January 2009 through December 2015, using our institutional prospectively collected kidney stone database.
- All septuagenarian and octogenarian patients who underwent supine PCNL were included in the case group. Two controls with age with < 70 year-old submitted to supine PCNL in the same frame of time were randomly selected for each elderly patient.
- Patients were matched based on Guy's stone score, as a surrogate of case complexity, based on preoperative computed tomography (CT) scan.

**Table 1.** Perioperative data

	Cases (n=18)	Controls (n=36)	p-value
<b>Number of accesses (%)</b>	One = 94.4 Two = 5.6 Three = 0	One = 69.4 Two = 13.9 Three = 16.7	0.095
<b>Supracostal accesses (%)</b>	11.1	27.8	0.165
<b>Operative time (min)</b>	136.5 ± 48.9	127.4 ± 52.6	0.541
<b>Complications</b>	16.70%	16.70%	1.000
<b>Pre op hemoglobin (mg/dL)</b>	13.6 ± 1.3	13.4 ± 1.5	0.749
<b>Postop hemoglobin (mg/dL)</b>	11.2 ± 1.7	11.2 ± 2.1	0.902
<b>Drop of hemoglobin (mg/dL)</b>	2.4 ± 1.4	2.2 ± 1.6	0.686
<b>Blood Transfusion (%)</b>	5.6	8.3	0.713
<b>Time w/ nephrostomy tube (days)</b>	2.2 ± 2.6	1.7 ± 3.4	0.518
<b>Length of hospital stay (days)</b>	4.0 ± 1.7	2.4 ± 1.1	0.002
<b>Stone-free Rate (%)</b>	83.3	75	0.487

**Table 2.** Postoperative complications

	Cases (n=18)		Controls (n=36)	
<b>Clavien 1</b>	1 (Transitory acute renal insufficiency)	Crystalloids	2 (Transitory arterial hypotension)	Crystalloids
<b>Clavien 2</b>	1 Bleeding	Transfusion	3 Bleeding	Transfusion
<b>Clavien 3</b>	1 Collecting system perforation	Double J placement	1 Hemothorax	Thoracic drainage
<b>Clavien 4</b>	0	-	0	-
<b>Clavien 5</b>	0	-	0	-
<b>Overall</b>	3 (16.7%)	-	6 (16.7%)	-

## Results:

- 54 patients were enrolled in this study, 18 cases and 36 controls.
- There were no significant differences in gender and body mass index between groups.
- There were significantly more ASA 3 patients in septuagenarian and octogenarian patients (p=0.012).
- Regarding PCNL technique, there were no differences in number of accesses, number of supra-costal accesses, and operative time.
- There was no significant difference in stone-free rate, nephrostomy tube time, complication rate, mean decrease in hemoglobin level, and need of blood transfusion.
- Hospital stay time (days) was longer in case group (4.0 ± 1.7 vs. 2.4 ± 1.1 days; p=0.002).
- Table 1 summarizes perioperative data.
- Table 2 shows postoperative complications according to Clavien score and how they were managed.

## Conclusions:

- Supine PCNL in septuagenarian and octogenarian patients presents similar stone-free and complication rates when compared to supine PCNL in younger patients.
- A longer hospital stay is expected in elderly patients who underwent to supine PNL probably due to their higher prevalence of comorbidities.