

Tonyali S. , [Yilmaz M.](#)

Health Science University Turkey Yuksek Ihtisas Research and Training Hospital, Dept. of Urology, Ankara, Turkey

Introduction & Objectives: We aimed to compare the costs of retrograde intrarenal surgery (RIRS) and percutaneous nephrolithotomy (PCNL) treatments in kidney stones.

Materials & Methods: The data of the patients who had RIRS or PCNL operation because of the kidney stone above 1.5 cm in our clinic were evaluated retrospectively. The parameters examined included demographic information, stone characteristics, type and number of operations, post-operative complications, transfusion requirement and antibiotic use, length of hospital stay, and cost of treatment.

Results: A total of 108 patients (54 RIRS and 54 PCNL patients) were included in the study. Of the patients, 71 were male and 37 were female. The mean stone size of RIRS patients was 1.9 ± 0.4 cm. Mean duration of hospital stay was 1.4 days in patients with RIRS and 4.4 days in patients with PCNL but was significantly higher in patients with PCNL ($p < 0.001$). Postoperative transfusion requirement was significantly higher in PCNL patients ($p = 0.027$) and post-operative antibiotic use was similar in both groups ($p = 0.113$). The average number of operations required for RIRC patients to be stone-free was 1.24 ± 0.43 . When the cost of equipment was excluded, the cost of being stone-free for a RIRS patient was 1896 ± 980 TL (Turkish Lira), and that of PCNL patient was 2759 ± 169 TL ($p < 0.001$) (Table 1). When the equipment cost was added, the cost of RIRS patients was 2896 ± 980 TL and the cost of PCNL patient was 3409 ± 169 TL.

	RIRS	PCNL	P value
Age(years)	48.6±12.3	50.8±11.9	0.336
Average Hospital Stay (days)	1.4	4.4	<0.001
Postoperative Tranfusion Requirement(n =)	0	6 (%11.1)	<0.001
Postoperative Antibiotic Needs (n =)	1	6	0.113
Cost of treatment (Turkish Lira)	2896±980	3409±169	<0.001

Table 1: Comparison of PCNL and RIRS

Conclusions: RIRS and PCNL are current methods in the treatment of kidney stones. RIRS is more minimally invasive than PCNL. However, as the stone size grows in the RIRS, the number of operations required to achieve stonelessness increases. Even when flexible cystoscope costs are added, RIRS has a cheaper treatment cost than PCNL.