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Introduction & Objectives: In this study, we aimed to determine the effectiveness of Guy score in predicting surgical success and complication rates in patients who presented with renal calculi and treated with percutaneous nephrolithotomy (PNL).

Materials & Methods: We retrospectively evaluated 100 patients who underwent PNL between January 2018 and December 2018 in our clinic. Demographic characteristics, stone burden, operation time and success rates of the patients were analyzed. The patients were classified according to the Guy score (Grade 1,2,3,4) with a non-contrast CT evaluation. The patients were evaluated with kidney ureter-bladder-film or ultrasound at postoperative 1st month follow-up and <4 mm stone was considered to be stone free.

Results: The demographic and perioperative findings of the patients are summarized in Table 1. The mean Guy score was 2.1 ± 0.9 . Postoperative stone-free rate was 65% and complication rate was 43%. The stone-free patients had a lower Guy score, shorter discharge and fluoroscopy use time. A statistically significant correlation was found between the Guy scoring system and the stone load, the duration of the scopy and the residual stone size. As a result of multivariate logistic regression analysis, Guy score and stone load were found to be independent markers in predicting stone free rate. According to the ROC analysis, Guy scoring system AUC was 0.645 and stone load AUC was 0.666 in predicting stone free rate.

Conclusions: Guy scoring system is a fast, successful and effective method that evaluates the success of kidney stones and the surgery to be performed by forming risk groups. The surgeons can use the stone load and Guy score values to predict stone-free and complication rates before the operation.

Table 1. Demographic and perioperative characteristics of patients

Gender (male / female)	69,0%/31,0%
	Average \pm SD
Age (years)	44.4 \pm 13,6
	27,3 \pm 3,2
body mass index (kg / m ²)	
	631,7 \pm 521,7
Stone size (mm ²)	
Stone density, (HU)	1025,1 \pm 347,6
Stone skin distance (mm)	81,9 \pm 22,3

Preoperative creatinine (ng/dl)	0,95±0,47
Postoperative creatinine (ng/dl)	0,99±0,41
Preoperative Hemoglobin	14,1±1,5
Postoperative Hemoglobin	12,3±1,8
Operation time (min.)	80,3±11,0
Fluoroscopy time (sec.)	65,9±10,3
Discharge time (days)	3,3±1,3
Guy score	2,1±0,9
Guy score	N(%)
1	29 %
2	46 %
3	10 %
4	15 %
Needed blood transfusion	
No	94
Yes	6
ASA score	
1	31
2	63
3	6
Postoperative. DJ stent	16
Stone-free rate	65 %
Complication rate	43 %