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1940 IS THE GRAVITY EFFECT OF RADIOGRAPHIC ANATOMIC FEATURES ENOUGH TO JUSTIFY STONE CLEARANCE OR FRAGMENTS RETENTION FOLLOWING EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (SWL)

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INTRODUCTION AND OBJECTIVES

We determined whether the gravity effect of radiographic anatomic features on the preoperative urography (IVP) are enough to predict fragments clearance after SWL.

METHODS

Total of 282 patients with mean age 45.8+ 13.2 years (189male, 93female), who underwent SWL due to renal calculi between October 2005 and Augusts 2009 were enrolled. The mean calculi load was 155.72 + 127.66mm^2. The patients were stratified into three groups; patients with pelvis calculi(group 1, 160patients), patients with upper or middle pole calculi(group 2,89patients) and patients with lower pole calculi(group 3,33 patients). Three angles on the pretreatment IVP were measured; the inner angle between the axis of the lower pole infundibular and ureteropelvic axis (angle I), inner angle between lower pole infundibular axis and main axis of pelvis-ureteropelvic(UP) junction point (angle II) and inner angle between lower pole infundibular axis and perpendicular line (angle III). Multivariate analysis were used to define the significant predictors of stone clearance.

RESULTS

The over all success rate was %85.81. All angles, sessions number, shock waves number and stone burden were significant predictors of success in patients in group 1. However in group 2 only angle II and in group 3, angle I and angle II, had significant effect on stone clearance.

CONCLUSIONS

Radiographic anatomic features have significant role in determining the stone-free rate following satisfactory fragmentation of renal stones with SWL. The measurement of infundibulopelvic angle in different manner help to predict the stone-free status in patients with renal calculi located not only in lower pole but also in renal pelvis and upper or middle pole. Gravity effect is not enough to justify the significant influence of the radiographic anatomic features on the stone clearance and fragments retention after SWL.

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