



## **Title: Radiation exposure of patient and surgeon in minimally invasive kidney stone surgery**

Name: Aykut Demirci, MD

Dıřkapı Yıldırım Beyazıt Research and Training Hospital, 06110, Turkey

Radiation Exposure of Patient and Surgeon in Minimally Invasive Kidney Stone Surgery: Percutaneous nephrolithotomy (PNL) and retrograde intrarenal surgery (RIRS) are the standard treatments used in the endoscopic treatment of kidney stones. The purpose of the study was to show the radiation exposure difference between the minimally invasive techniques. This is a prospective study which included 20 patients who underwent PNL, and 45 patients who underwent RIRS in our clinic between June 2014 and October 2014. The surgeries were assessed by dividing them into three steps: Step 1: The access sheath or ureter catheter placement, Step 2: Lithotripsy and collection of fragments, and Step 3: DJ catheter or re-entry tube insertion. For the PNL and RIRS groups, mean stone sizes were 30 mm (range 16-60), and 12 mm (range 7-35); mean fluoroscopy times were 337 sec. (range 200-679), and 37 sec. (range 7-351); and total radiation exposures were 142 meq (44.7 to 221), and 4.4 meq (0.2 to 30) respectively. Fluoroscopy times and radiation exposures at each step were found to be higher in the PNL group compared to the RIRS group. When assessed for the 19 PNL patients and the 12 RIRS patients who had stone sizes  $\geq 2$  cm, the fluoroscopy time in step 1, and the radiation exposure in steps 1 and 2 were found to be higher in the PNL group than the RIRS group ( $p < 0.001$ ). Although there is need for more prospective randomized studies, RIRS appears to be a viable alternate for PNL.

**Keywords:** PNL, RIRS, radiation exposure

### **Biography**

Aykut DEMİRCİ graduated from Kırıkkale University Medical School in 2008. He completed his urology residency training at Dıřkapı Yıldırım Beyazıt Training and Research Hospital in 2015. After this date, he is working as a urologist at Aksaray State Hospital.

### **Presenting author details**

Full name: Aykut Demirci, MD

Contact number: +90 5063667304

Twitter account:

Linked In account:

Session name/ number:

Category: (Poster presentation)