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LETTER TO THE EDITOR

Fluoroless ureteroscopy: in whom and when?

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We thank the authors who emphasize a topic popular in urology: radiation exposure and protection [1]. Today, with the increase in the use of imaging methods and in endourological treatment techniques using X-rays, exposure to radiation has increased. Because of the high risk of stone recurrence and frequent use of imaging methods in patients with urolithiasis, radiation exposure is regarded as a major concern for this group of patients. In order to decrease radiation exposure, the "ALARA" (as low as reasonable achievable) principle is an accepted, expected, and desirable protocol [2, 3]. In this study, the authors presented the outcomes of X-ray free retrograde intrarenal surgery (RIRS) with the aim of minimizing radiation exposure to patients and operating room staff. Fluoroscopic imaging was only required in patients who had a double collecting system and no major complication occurred.

Despite the advantages of fluoroless RIRS, some points should be highlighted. Fluoroscopy may be necessary during various steps of RIRS, such as insertion of a guidewire and stent, access sheath insertion, detection of stone location and size, and assessment of collecting system anatomy [4]. With doctors who have increased experience in minimally invasive surgical procedures in recent years, some authors have reported positive outcomes of radiation-free surgery in selected cases [5]. Peng et al., for example, have documented fluoroless RIRS outcomes and presented the feasibility and safety of the procedure.

In this study, all procedures were performed by the same experienced surgeon, with fluoroscopic imaging providing additional information to increase the safety of the procedure. On the other hand, in fluoroless procedures, guidewire insertion, ureteral access sheath placement, and insertion of a flexible ureterorenoscope over the guidewire are done with the tactile and visual cues that require advanced surgical skills.

Patients should be assessed meticulously during the preoperative period, and during an operation, fluoroscopy should be ready to use in case of any requirement. Fluoroscopic imaging may be mandatory in complicated cases, such as with patients who have anatomical abnormalities, impacted ureteral stones, or ureteral strictures [6]. (In the studies presenting the feasibility of fluoroless URS, complicated cases are/were excluded.)

In conclusion, radiation-free RIRS reduces the intraoperative irradiation of patients and operating room personnel and is feasible and safe for the treatment of renal stones in uncomplicated cases. On the other hand, however, fluoroscopic imaging could be reasonably used during endoscopic procedures in order to achieve highest safety with the minimal radiation exposure.

Conflict of interest The authors declare that there is no conflict of interest.

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