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Re: Current Standard Technique for Modern Flexible Ureteroscopy: Tips and Tricks

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EDITORIAL COMMENT

The prevalence of urinary stone disease is increasing worldwide. The dissemination of the clinical use of ultrasound has improved the diagnosis of stones at an earlier stage. It has increased the expansion of the indications of flexible ureterorenoscopy (fURS). With the advances in flexible ureteroscopy (FU), more successful outcomes are being reported. The most recent EAU guidelines state that for all stones smaller than 2 cm, fURS can be the first choice of treatment. Especially for lower pole stones, the stone free rate is better than that with extracorporeal shock wave lithotripsy. For stones larger than 2 cm staged procedures may be necessary. This paper recommends a standardized technique for fURS to decrease the rate of possible complications, and increase the success rate. Endourological techniques are widely adopted by most of the urological surgeons, hence fURS is an expansion of our surgical armamentarium. In this paper, an experienced group recommends some tips and tricks for each step of the procedure. The authors recommend general anesthesia over spinal anesthesia for two reasons: larger tidal volume during spinal anesthesia may cause movement, which can make the procedure harder. Secondly, the duration of the spinal anesthesia may be too short for some cases. The placement of ureteral access sheath (UAS) should be done under fluoroscopic guidance and proper force should be applied. Ideally, the distal tip of the UAS should be just below the ureteropelvic junction.

For preventing functional deterioration of the FU, the tip of the laser probe should be out of the scope as far as one-quarter of the screen diameter. For preventing excessive prolonged deflections, the stones in the lower pole should be repositioned in order to allow a more straight working channel. Pulverization of the stone is preferred over fragmentation since it decreases the operation time and risk of injury during removal of fragments. A power setting of low frequency (10-15 Hz) and high energy (1-2J) is recommended for kidney stones. It is advised to keep the laser tip 1-2 mm to the stone and start from the outer part of the stone rather than causing holes and tunnels in the center, which leads to larger fragments. The use of small fiber diameters (200-275 nm) is recommended. However, since they are more prone to fiber degradation, it should be cleaved at each 10 minutes of firing with a simple metallic scissor by protruding from the tip of the FU without removing and replacing the laser probe.

When extraction of fragments is necessary, zero tip nitinol baskets are recommended.

The most important exit strategy is the endoscopic inspection of the ureter wall during the removal of UAS by keeping the tip of the scope a few centimeters out of the UAS. Routine stenting whenever a UAS has been used is recommended. When the surgery is uneventful, and the endoscopic examination of the ureter seems normal, short-term stenting is offered.

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