

Editorial referring to the paper published in this issue on pp. 309–313

UROLITHIASIS

## Is there a place for ESWL in the treatment of complicated proximal ureteral stones?

Ewa Bres–Niewada

Department of Urology, Medical University of Warsaw, Warsaw, Poland

Although recently the minimal invasive urological and endourological methods have been substantially improved, concerns remain about the optimal management of proximal ureteral stones. Even the European Association of Urology Guidelines are not fully clear and leave the choice of treatment method to the urologist's discretion. Both extracorporeal shock wave lithotripsy (ESWL) and ureteroscopy (URS) are accepted methods of the proximal ureteral stones management. ESWL is very often used as a first-line procedure because of its minimal invasiveness. It is proper for ureteral stones in all locations, but especially suitable for proximal (lumbar) localization because URS is considered more difficult in the upper part of the ureter.

Authors of the paper published in this issue of Central European Journal of Urology have discussed the impact of a double-J stent for the results of ESWL in ureteral lumbar stones [1]. A lot of predictors have been reported to influence ESWL outcome in the management of ureteral calculi [2]. One of them is a double-J stent. As the authors have pointed, there are conflicting opinions on the ESWL effects in the management of ureteral stones in pre-stented patients. There is a quite popular theory that the indwelling stent creates expansion space thus facilitating effects of ESWL. On the other hand many authors stress that a stent can absorb energy of shock waves, impede their propagation and energy transmission thus lowering fragmentation rate. Also, while some suggest that catheters aid fragments passage by passive dilatation of the ureter [3] others point out that double-J stents can cause urethral oedema, irritation and diminished peristalsis delaying clearance [4].

Results reported by Pettenati et al. show that presence of a double-J stent adversely affect the results of ESWL for stones >8 mm. The main limitation of this study is its retrospective design. However, some prospective studies have also reported that pre-stenting

before ESWL does not improve the procedure results. In the recent prospective randomized trial stenting prior ESWL provided no additional advantage over *in-situ* ESWL. There was no statistical significant difference in stone-free rates between stented and non-stented patients with upper impacted ureteral stones measuring  $\leq 2$  cm treated with ESWL (90% vs. 86.7% respectively;  $p = 0.346$ ) [5]. In another prospective randomized study pre-stenting limited stone-free rates in the ESWL management 4 to 10 mm ureteral stones (68.6% vs. 83.7% for stented and non-stented groups respectively;  $p = 0.026$ ) and was responsible for higher post-ESWL morbidity and lower quality of live [6].

Therefore routine stenting before ESWL for ureteral lithiasis is not recommended, but in case of complicated lithiasis (sepsis, acute obstructive pyelonephritis, renal insufficiency, severe pain) urgent decompression with a double J stent is often necessary before implementation of definitive treatment. What should be the next step in the management of ureteral stones after recovery from sepsis or any other emergency case? Should we perform ESWL or rather ureteroscopy as a definitive treatment following the double J stent placement?

The choice is controversial. Decision should be individual for each patient with a ureteral stone, especially if complicating factors co-exist. However, in my opinion Pettenati's study and other publications support the use of URS as a preferred first-line procedure in complicated lumbar ureteral stones previously managed with a double J stent. Pre-stenting makes ureteroscopy easier, improves stone-free rates and reduces complications risk [7]. With uncomplicated URS there is a higher probability of definitive stone clearance with just one procedure and the stent can be removed earlier. That is an important advantage as lower urinary tract symptoms caused by indwelling stent are noticed in up to 80% of patients. Stent-related complaints interfere with daily activities and are responsible for

quality of life deterioration [3]. Patients treated with ESWL are usually not immediately stone-free and very often there is a need for repeated ESWL sessions or other additional procedures which delay definitive treatment, thus lowering the patient's quality of life and increasing costs.

## References

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## Correspondence

Dr. Ewa Bres-Niewada M.D., Ph.D.  
ewa.bres-niewada@wum.edu.pl