Combined Robotic Flexible Ureterorenoscopy and Minipercutaneous Lithotripsy in Supine Position

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Introduction & Objectives
Supine position is suitable for the combination of rigid or flexible ureterorenoscopy (fURS) and PCNL/miniPCNL in the same session.

We use to use supine position for the treatment of selected kidney stones. During the combination of manual fURS and PCNL keeping the fURS in the pelvis or upper ureter was not possible. When we need to reuse fURS it was necessary reinsertion and relocation of the stone. This condition was the time consuming method. In this study we used fURS with roboflex simultaneously with PCNL, to search availability and advantages.

Material & Methods
We used Roboflex for 18 cases of multicaliceal stones in the recent two years. During the combination treatment in supine position, after insertion of fURS in a classical way we connected the flexible device to the Roboflex and examined the pelvis or calices, planned stones treated by Roboflex and the tip of the fURS fixed 2cm distal of the ureteropelvic junction.

We treated mostly large lower caliceal stones by miniPCNL and evacuated all of the fragments which are difficult to clear out spontaneously.

During the treatment of planned pelvic or caliceal stones by miniPCNL, fURS device was waiting in the same position ready for reuse. After the mini PCNL we used the robotic fURS again, for recheck the calices and ureter for residual fragments or known stones, and if some stone fragments can found they were fragmented.

Results Roboflex, the robot for flexible ureteroscopy was very successfull during the combination treatment in supine position, Roboflex was very helpful to keep the fURS in place with fixed tip, by this way we introduced four targeted calices under endoscopic vision, without using an assistant.

Conclusions
Robotic flexible ureterorenoscopy using Roboflex is helpful for the fURS during combination treatment of multicaliceal stones. Behind the other advantages of Roboflex, it saves the time and protect the fibers of fURS and prevent fatigue of the user. We need to analyze long term results.