

**FP27****Safety and effectivity of roboflex avicenna, the new robot for flexible ureteroscopy**J. Rassweiler¹, A. Smith², R. Saglam³, O. Traxer⁴, G. Preminger⁵, D. Hoenig², Z. Tokatl⁶, A. Armağan⁷, K. Sarica⁸, A. Müslümanoğlu⁹¹ SLK Kliniken, Heilbronn, Germany² Smith's Urology Clinic, New York, NY, USA³ Medicana International Hospital, Ankara, Turkey⁴ Marie Curie University, Tenon Hospital, Paris, France⁵ Duke University, Durham, NC, USA⁶ Medicana International Hospital, Ankara, Turkey⁷ Bezmialem University, Istanbul, Turkey⁸ Kartal Training and Research Hospital, Istanbul, Turkey⁹ Bagcilar Training and Research Hospital, Ankara, Turkey

Introduction and Objectives: Flexible ureterorenoscopy (FURS) represents a technically challenging procedure requiring specific endourologic skills. Based on preclinical studies, we present early clinical experience with treatments performed by 7 different experienced endourologists (IDEAL phase 2) who have used the Roboflex Avicenna device (ELMED, Turkey) developed for remote controlled flexible ureteroscopy. We searched the safety and effectivity of this new device.

Methods: After Ethical approval, a total 81 patients (mean age 42, range 6-68) were treated. We used Roboflex Avicenna. After locking the flexible endoscope, all functions could be controlled remotely from the console, out of the radiation exposure field, without wearing a lead apron. Operation time and pulverisation time were recorded. After one and three months from the operation we checked the residual fragments by KUB and ultrasonography. We requested from all 7 surgeons to fill out the validated questionnaire.

Results: All patients had renal calculi with a mean CT calculated volume of 1296 mm³. Access sheath was used in 72 of patients. Mean time to dock the robot was 59.6(35-124) seconds, mean fragmentation time was 46(15-118) minutes corresponding to a mean fragmentation speed of 29.1(18-46) mm³/min. Mean console time was 53(23-135) minutes. Complete stone disintegration was accomplished in 79 patients (96%). After 3 months 65 patients (80%) were stone-free. Robotic FURS showed significantly better ergonomics.

Conclusions: Robotic-assisted flexible ureterorenoscopy using the Avicenna Roboflex provides a suitable, safe and effective platform for FURS with significant improvement of ergonomics. Future studies will also evaluate the impact of the device on clinical outcome of FURS.