P003 Rirs and spinal anesthesia in high risk patient

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Introduction & Objectives: In literature there are few studies concerning RIRS (RetrogradeIntrarenal Surgery) with Spinal Anesthesia (1). We propose to compare procedure's results in the few cases treated, concerning patients with complex comorbidities due to which GA wasn't indicated.

Materials & Methods: Since 2014 up to 30th April 2019 we performed 495 RIRS for the treatment of renal stones; 489 were performed under general anesthesia and only 6 patients with spinal anesthesia (4 men and 2 women, medium age 77, medium stone size surface 160 mm2). Preliminary anesthesiological evaluation estimated these patients as high risk for intubation with American Society of Anesthesiologists (ASA) Physical Status classification system of 3-4, which for this reason was not indicated. The comorbidities was: 2 plegic with many comorbidities; 1 advanced Parkinson disease; 1 compromised from the cardiocirculatory view point. After appropriate patient monitoring (i.e: Blood Pressure, peripheral oxygen saturation, and three leads ECG) all patients were placed in sitting position for skin disinfection and spinal anesthesia realization.Skin disinfection was provided with 7,5% povidone-iodine and 0.5% chlorhexidine in alcohol 70% solution. Spinal anesthesia was then performed in all patients using a midline approach with a Whitacre 27 G needle placed at the L3-L4 lumbar level. Clear cerebrospinal fluid (CSF) flow was assessed before injecting 10 mg of 0,5% hyperbaric bupivacaine. All spinal anesthetic procedures went uneventful and provide sufficient anesthesia for RIRS procedures. We use ureteral sheets 35mm 10-12 ch diameter, flexible ureterorenoscopy and usual RIRS procedure, with Holmium laser 30 Watt 270 micron.

Results: Medium operatory time was 40 minutes, all patients were stone free at the end of the surgery. No stent was left, only a temporary ureteralcatheter for 48-36 hours in the postoperatory. Visual analog scale (VAS) 1-10 in the postoperative: medium value of 3. Traditionally, RIRS procedures are performed under General Anesthesia (GA). The reason for this is unclear, but it may be referred to a larger tidal volume under Spinal Anesthesia, resulting in greater diaphragm and renal movement and this could cause instability to reach stones with a greater risk of renal damage during laser lithotripsy; even if it is proven that apnea during RIRS facilitates the procedure, a high confident surgeon could modulated the procedure with no significantly improve in operating times. Some studies confirm that RIRS with CSEA can be completed with no anesthetic conversions and with the same efficacy and safety compared with GA.

Conclusions: Even few in numbers we performed RIRS with SA with stone free results in patients with ASA value 3-4 with many comorbidities; we obtained a good pain control, referring to VAS scale. We could consider that RIRS could be safely done under SA, in selected high risk patient for GA.