# AB061. Are post-operative irritative symptoms more favorable in GreenLight XPS 180W laser vaporization of the prostate compared to GreenLight KTP 80W laser vaporization of the prostate?

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**Background:** Irritative symptoms including prolonged urgency and dysuria after GreenLight laser photoselective vaporization (PVP) of benign prostatic hyperplasia (BPH) are common complication. We aimed to compare the incidence of postoperative irritative symptoms of GreenLight XPS (GL-XPS) 180W laser system with GreenLight KTP (GL-KTP) 80W laser system for the treatment of BPH and evaluate the risk factors of irritative voiding symptoms.

**Methods:** The data of patients, who received GL-KTP 80W PVP from July 2005 to December 2007 and GL-XPS 180W PVP from January 2015 to August 2016 at our institution, were reviewed. The perioperative and postoperative parameters, including laser applied time, hospital stay, International Prostate Symptom Score (IPSS), maximum urinary flow rate (Qmax), post-void residual urine (PVR), prostate volume, prostate specific antigen and incidence of irritative symptoms were collected and compared between GL-XPS and GL-KTP groups.

**Results:** GL-KTP 80W PVP was performed in 134 patients and XPS 180W PVP in 100 patients. Preoperative demographic data were similar in both groups. Perioperative parameters were also comparable, except for shorter laser applied time in GS-XPS 180w group. (41.2 *vs*. 18.5 min, P<0.01). Postoperative Qmax, PVR, IPSS of both groups were improved compared to baseline, however comparison of the postoperative parameters between GL-XPS and GL-KTP groups demonstrated significant difference, with PVR, IPSS voiding subscore and IPSS storage subscore. The incidence of irritative symptom in KTP group (41/134, 30.6%) was significantly higher than that in XPS group (14/100, 14.0%), (P<0.01). On multivariate analysis, laser applied time was independently associated with irritative voiding symptoms (OR =1.1; P=0.03).

**Conclusions:** This is the first study that evaluated the risk factor of irritative symptoms following PVP between different laser system. The GL-XPS 180W PVP appears more favorable with reducing irritative symptoms compared to GL-KTP 80W through significantly reducing laser time.

**Keywords:** Benign prostatic hyperplasia (BPH); photoselective vaporization of prostate (PVP); irritative symptoms

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# AB062. Clinical analysis of retroperitoneal robotic-assisted laparoscopic partial nephrectomy in management of T1b renal carcinoma

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**Background:** To summarize our clinical experience and review our technique of retroperitoneal robotic-assisted laparoscopic partial nephrectomy (RALPN) in management of T1b renal carcinoma. Assess the clinical efficacy and safety of retroperitoneal RALPN.

**Methods:** Retrospective review of 52 T1b renal carcinoma

 

patients underwent retroperitoneal RALPN form January 2014 to October 2016. The patients included 30 males and 22 females, with an average age of (55.2±9.5) years old. There were 32 tumors in the left and 20 in the right. The mean lesion diameter was 4.5±0.7 cm.

**Results:** All cases were performed successfully. The operation was completed in a mean of 80.5±12.3 min, the mean warm ischemia time was 17.4±5.1 min, the mean blood loss was 38.2±7.4 mL and the mean extubation time was 2.1±0.7 d. Postoperative pathology reported malignant tumor in all cases, including renal clear cell carcinoma in 45 cases, papillary renal cell carcinoma in 5 cases and chromophobe cell carcinoma in 2 cases. The surgical margin of all cases were negative.

**Conclusions:** Retroperitoneal RALPN is an effective, safe and minimally invasive surgical management for T1b renal carcinoma.

**Keywords:** Retroperitoneal approach; renal carcinoma; partial nephrectomy; robotics

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# AB063. A prostaglandin E (PGE) receptor EP4 is involved in the cell growth and invasion of prostate cancer via the cAMP-PKA/PI3K-AKT signaling pathway

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**Background:** Prostate cancer (PCa) is one of the most prevalent diagnosed malignancies in the world. Previous studies have proved that prostaglandin $E_2$ ($PGE_2$) was closely related to the tumorigenesis and progression of PCa. However, the molecular mechanisms are not very clear, and it is necessary to be further studied. MMPs, RANKL and RUNX2, involved in the cell growth and bone metastasis, are activated or overexpressed in many cancers, including PCa.

**Methods:** This study was designed to demonstrate the internal relationship and molecular mechanisms among the $PGE_2$, EP4 and MMPs, RANKL and RUNX2 in PCa, and to define their roles in PCa cell proliferation and invasion.

Results: The results in this study showed that the protein and the mRNA expression levels of the MMP-2, MMP-9, RANKL and RUNX2 in PC3 cells were significantly upregulated by treated with $PGE_2$, and knockdown of these proteins blocked $PGE_2$-induced cell proliferation and invasion in PC3 cells. The effect of $PGE_2$ on the protein and mRNA expression levels was mainly regulated via the EP4 receptor. EP4 receptor signaling activated cAMP-PKA signaling pathway, and forskolin, the activator of the adenylate cyclase (AC), has similar effects of the EP4 receptor agonist on the protein expression, while SQ22536, the inhibitor of AC, inhibited the protein expression. These results confirmed the AC/cAMP pathway was involved in EP4 receptor-mediated protein expression upregulation. By using specific inhibitor of PKA, it is demonstrated that cAMP/PKA was also related to the upregulation of the EP4 receptor-mediated protein expression. In addition to the signaling pathway of the PKA, the EP4 receptor also exerts activities through activating Akt kinase. The results in present study confirmed the hypothesis that the EP4 receptor-mediated protein expression of PCa cells, which were pretreated with the specific inhibitor of PI3K, was significantly inhibited.

**Conclusions:** In summary, it is revealed that $PGE_2$ significantly upregulates the mRNA and protein expression levels of the MMPs, RANKL and RUNX2, and the EP4 receptor was involved in the cell proliferation and invasion of PCa via the cMAP-PKA/PI3K-AKT signaling pathway in this study. The present study may provide a new way of thinking and therapeutic strategy for the prevention and treatment of PCa.

**Keywords:** Prostaglandin E; Prostate cancer (PCa); AKT; $PGE_2$

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