

5 years finally. All the surgical procedures were successfully conducted under epidural or general anesthesia. Mean operation time was  $79\pm 21$  minutes, and mean retrieved prostatic tissue was  $22.7\pm 5.6$  g. Resected prostatic tissues could be easily flushed out of the bladder. There were no significant differences in serum sodium concentrations and hemoglobin levels before and after the surgery. Mean catheter time and hospital stay was  $121\pm 47$  hours and  $5.5\pm 2.0$  days respectively. During follow up, Qmax increased from  $8.1\pm 3.7$  mL/s preoperatively to  $4.5\pm 3.9$  mL/s by the end of the follow up ( $P<0.05$ ), IPSS and QoL-Score improved from  $23.6\pm 4.7$  and  $3.8\pm 0.9$  to  $5.7\pm 2.6$  and  $1.6\pm 1.2$  respectively ( $P<0.05$ ), and PVR decreased from  $244\pm 73$  to  $28\pm 22$  mL. The data indicated that transurethral vaporessection of prostate using the 2-micron continuous wave laser system is a safe and effective treatment for BPH.

**Keywords:** Benign prostatic hyperplasia (BPH); vaporessection; transurethral

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## AB028. The repair and reconstruction of urethral stricture

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**Abstract:** Urethral stricture is still a challenging field in urology. Despite the varied procedures to treat this disease at present, no one existed approach can be clearly stated to be superior over another. Among the procedures, simple dilation and direct vision internal urethrotomy are more commonly suggested only for short urethral

stricture ( $<1$  cm, soft and no previous intervention). Currently, urethroplasty using buccal mucosa or penile skin are the most widely adapted techniques in clinic and have met great success. But some complications such as donor site morbidity still remains problems to be solved. Tissue engineering technique is considered as a promising solution for urethral reconstruction, but still need further investigation, and the stem cell therapy also mandates further work in the future.

**Keywords:** Urethral stricture; dilation; tissue engineering technique

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## AB029. The regulatory effects of androgen in wound healing of the prostatic urethra after thulium laser resection of the prostate

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**Background:** This research aims to determine the role of androgen in wound healing of the prostatic urethra after thulium laser resection of the prostate (TmLRP). Further, the change of basal cell proliferation and differentiation as well as macrophage polarization and the inflammatory response influenced by androgen were explored. Moreover, the macrophage cytokines effected by finasteride were detected in urine specimens from thulium laser prostatectomy patients, thus to reveal the mechanism of androgen in wound repair process after prostatectomy.

**Methods:** (I) Twenty-four beagles that received TmLRPs were randomly distributed into a castration group, a testosterone undecanoate (TU) group and a control

group. The prostate wound was assessed once a week using a cystoscope. Histological analysis was then carried out to study the re-epithelialization of the prostatic urethra in each group; (II) immunohistochemical and immunofluorescence techniques were used to determine the basal cell proliferation and differentiation influenced by androgen; (III) the macrophage polarization and inflammatory response in the wound tissue and urine was also investigated; (IV) the macrophage cytokines effected by finasteride were detected in urine specimens from thulium laser prostatectomy patients by ELISA.

**Results:** (I) The healing of the prostatic urethra after a TmLRP was more rapid in the castration group and slower in the TU group than that in the control group; (II) castration accelerated re-epithelialization by promoting basal cell proliferation in the wound surface and beneath the wound and by accelerating the differentiation of basal cells into urothelial cells; (III) castration reduced the duration of the inflammatory phase and induced the conversion of M1 macrophages to M2 macrophages, thus accelerating the maturation of the wound. By contrast, androgen supplementation enhanced the inflammatory response and prolonged the inflammatory phase. Moreover, the anti-inflammatory phase was delayed and weakened. TNF- $\alpha$ , IL-6 and IL-12 that secreted by M1 were higher than the other two groups, and IL-10 and TGF- $\beta$ 1 that secreted by M2 were obviously postponed compared with the other two groups. 4. In the urine specimens from thulium laser prostatectomy patients, the expression of TNF- $\alpha$ , IL-6 and IL-12 were lower while the expression of IL-10 and TGF- $\beta$ 1 were higher under the influence of finasteride.

**Conclusions:** (I) Androgen deprivation promotes re-epithelialization of the wound, regulates the inflammatory response, and accelerates wound healing of the prostatic urethra after a TmLRP; (II) castration accelerates re-epithelialization by promoting basal cell proliferation in the wound surface and beneath the wound and by accelerating the differentiation of basal cells into urothelial cells; (III) androgen inhibits the prostatic urethra wound healing by regulating the macrophage polarization; (IV) this research established foundation to reveal the mechanism and application of anti-androgen in the treatment of wound healing after prostatectomy.

**Keywords:** Basal cell; benign prostatic hyperplasia; androgen; wound healing; macrophage

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## AB030. The application of plasma column electrode in delayed bleeding after PCNL and unroofing of renal cyst

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**Background:** To observe the clinical effect of plasma column electrode in the treatment of delayed bleeding after PCNL and simple renal cyst.

**Methods:** From March 2011 to September 2017, we retrospectively analyzed the clinical data of 9 cases with delayed bleeding after PCNL and 17 cases with simple renal cyst. The plasma column electrode was adopted to stop bleeding and to resect the cyst wall.

**Results:** Patients with delayed bleeding after PCNL were successfully stanching by using plasma column electrode; The renal cyst was successfully removed and decompressed by plasma column electrode through percutaneous ureteroscopic deroofing of renal cyst.

**Conclusions:** The plasma column electrode has the advantages of accurate, safe, simple and small trauma in the treatment of delayed bleeding after PCNL and simple renal cyst. It is suitable for popularization and use.

**Keywords:** Plasma column electrode; delayed bleeding after PCNL; unroofing of renal cyst

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