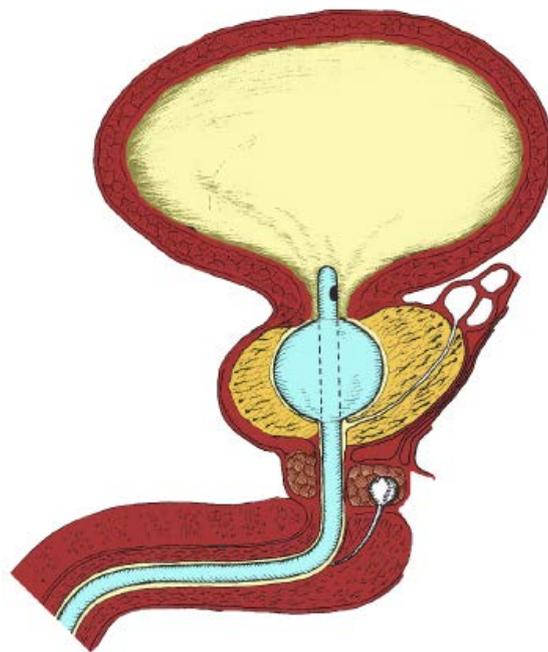


Transurethral Split of the Prostate with a Columnar Balloon Catheter

About BPH: Prostate is the only ever-increasing organ comply with age's increasing.. BPH is common disease of the old. Prostate is a tough coated organ.

4 Function of the Prostate: Sexual Function, Reproductive Function, Endocrine Function, Urinate Function

A new technique and clinical value to treat benign prostate hyperplasia by transurethral rupture the body and capsule of prostate by using a catheter with a four-columnar high pressure water-filled balloon was introduced to 113 patients during Mar, 2003 to Oct, 2012. Reported as follows:



General information: 113 patients aged 70-94 with BPH were selected. All of them have lower urinary tract obstruction caused by BPH and also have different degrees of major organ diseases, such as pulmonary insufficiency of 27 cases, high

blood pressure, coronary heart disease or cardiac insufficiency of 53 cases, mild-to-moderate kidney function damage of 9 cases, cerebrovascular sequela of 3 cases, and chronic cerebral infarction of 4 cases.

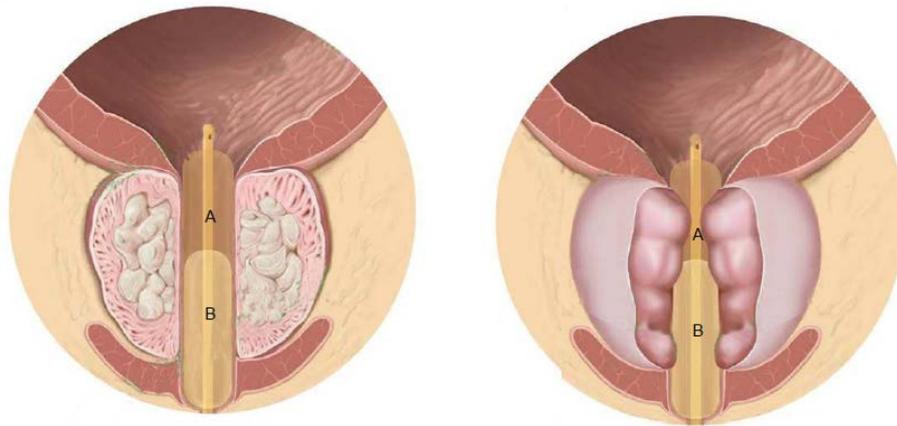
Ultrasound showed the 113 cases' prostate volume were 34 ~ 230 ml, 104 maximum urinary flow rates (Q_{max}) were 3.4 ~ 10.8 ml/s, postvoid residual urine (PVR) 40 ~ 180 ml, while the rest 9 patients had urinary retention. All the cases' international prostate symptom score (IPSS) were 8 ~ 34, the quality of life score (QOL) were 4 ~ 5, prostate specific antigen (PSA) were 0.8 ~ 18.6 ng/ml. 8 patients was eliminated from prostate cancer with anal inspection and transrectal prostatic biopsy. 5 cases were after transurethral urethral resection prostate, while 1 was after an invasive operation, but recurrent.

METHODS Various sizes of transurethral catheters were chosen according to the prostate volume and bladder PVR, after preoperative routine physical examination and symptomatic treatment on medical complications.

With low spinal anesthesia, the catheter was placed in posterior urethra transurethrally, and the internal and external balloons were expanded gradually to 0.3 MPa by injecting sterile solution into the capsules. Then close the injection tube, when the internal was positioning in membranous urethra and the external balloon positioning in prostatic urethra. The average time of this operation was about 10 minutes. Three hours after the operation, the pressure in the balloons was gradually reduced, and the catheter was removed 5 days later.

RESULTS: A review was provided after 3 to 24 months, every patient experienced

smoother urination, combined with the Qmax averagely increased to 15.8 ± 2.1 ml/s, PVR dropped to 22 ± 8.1 ml, IPSS fallen to 6.8 ± 1.2 and the QOL decreased to 1.4 ± 0.3 . Urethrography revealed the capacity of posterior urethra improved during 9-year- follow up. Only 2 cases occurred dysuria 3 years after operation due to an inaccurate positioning and an incorrect selection of smaller catheter.



The high lights of this technique are: it originates a new concept of surgery which means resection is not always the first choice. Furthermore it breaks the penalty field of touching membranous urethra without damaging nerves and urethral sphincter. Even more important, minimal hurt on patients' physiology and psychology could prolong a longer average life expectancy for elder men.

Key technology: CT and MRI shows a tear at 12 o'clock of the prostate capsule which is covered by retro pubic adipose, fascia tissue and bulging urethral tissue in order to prevent prostate and its capsule from being folded, therefore, maintains a long-term patulous urethra.

We, TTM is being able to supply this product and guidance operation. Please feel free to contact any time.

