# 83 Three-dimensional model of MRI prostate in bladder outlet obstruction of male LUTS/BPH patients

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**Introduction & Objectives:** By using software to establish magnetic resonance imaging(MRI) three-dimensional model of prostate, we make correlation analysis between the volume related index of each part and urodynamic results, and study its difference of diagnosing bladder outlet obstruction(BOO), which can provide reference evidence for the patients of BPH to anticipate efficacy in the pre-operation and timing of surgery and removal of key obstruction during operation to service for the majority of patients.

**Materials & Methods:** From August 2017 to August 2018, retrospective analysis 85 LUTS/BPH patients in our hospital. MRI, PSA and urodynamic examination were done before operation. We import the prostate MRI pictures of all patients into MITK software to complete three-dimensional image reconstruction of prostate.By this method, we can acquire the following data: Total prostate Volume (TPV), peripheral volume (PZV), intravesical prostatic protrusion volume(IPPV), intravesical prostatic index (IPPV/TPV), transitional zone index (TZV/TPV). Several date can be obtained by urodynamic examination as follows: maximal urinary flow rate(Qmax) the detrusor pressure while the maximum urinary flow rate(PdetQmax). The coefficient of bladder outlet obstruction(AG) can be gained easily according to the formula AG= PdetQmax-2Qmax

**Results:** The correlation between AG and IPPV (r=0.393), IPPV/TPV (r=0.463) and IPPV/TZV(r=0.443) was statistically significant; The correlation of Qmax and IPPV (r-=0.417), IPPV/TPV (r=0.381) was statistically significant; The correlation between PdetQmax and IPPV (r=0.402), IPPV/TPV (r=0.554) and IPPV/TZV (r=0.432) was statistically significant.

**Conclusions:** IPPV is one of the most important reasons for bladder outlet obstruction caused by prostatic hyperplasia. The unequal hyperplasia of transitional zone on both sides can make the urethra more curved and folded, which can increase urethral resistance and affect the maximum urinary flow rate.