OBJECTIVE

To investigate the effect of urodynamic detrusor underactivity (DUA) on transurethral surgery for benign prostatic hyperplasia (BPH).

MATERIAL and METHODS

We systematically searched online Pubmed, Embase and Cochrane Library database from January 1989 to June 2014.

• Query for search: urodynamic study (UDS), BPH and transurethral surgery
• Inclusion criteria: original articles in English
  ① comprised of BPH patients who underwent transurethral surgery; ② with preoperative sub-grouping by the definite urodynamic DUA criteria; ③ with comparison of improvement of International Prostate Symptom Score (IPSS), or uroflowmetry parameters with their distributional information; ④ and with their definite sample size were selected
• Data acquisition: Population size, number of each subgroup according to presence or absence of preoperative DUA, mean improvement of IPSS (ΔIPSS), IPSS-QoL (ΔIPSS-QoL), Qmax (ΔQmax), and PVR (ΔPVR) of each subgroup with their standard deviation (SD).

RESULTS

A total of 7 articles met the eligibility criteria. The eligible studies included a total of 492 patients with a median number of 71 patients per study (range 40-92). Figure 2. Forest plots comparing improvement of outcome parameters after the transurethral surgery with or without detrusor underactivity (DUA) using random effects model. (A) Improvement of IPSS (B) Improvement of QoL score (C) Improvement of Qmax (D) Improvement of PVR

• In patients with DUA, pooled mean differences (MDs) were significant for the poorer improvement of IPSS (pooled MD, -5.83; 95% confidence interval [CI], -7.18~ -4.49) and Qmax (pooled MD, -3.86; 95% CI, -4.93~ -2.80), but not in that of QoL score (pooled MD, -0.27; 95% CI, -0.98~0.44) and PVR (pooled MD, - 7.36; 95% CI, -25.4~10.68).

CONCLUSIONS

• Our meta-analysis results showed that preoperative DUA was correlated with poorer improvement of IPSS and Qmax.
• To rule out DUA, using preoperative UDS may be helpful for improvement of postoperative outcomes after prostatectomy.