

## DOES THE DIGITAL RECTAL EXAMINATION PREDICT THE PROSTATE VOLUME GREATER THAN 30ML?

### Hypothesis / aims of study

In the clinical practice on the lower urinary tract symptoms suggestive of benign prostatic hyperplasia (LUTS/BPH), the prostate volume (PV) over 30 ml or not is important information for clinicians who make a treatment decision. We survey the accuracy of DRE to estimate PV over 30 ml.

### Study design, materials and methods

We conducted cross-sectional community-based studies at Shimamaki-mura, Japan twice in 1992-93 and 2007-08 to investigate the prevalence of LUTS/BPH. Of total 533 men who underwent the medical examination, 457 were eligible in this study. We compared the results of DRE with PV measurement by transrectal ultrasound (TRUS) and evaluated the concordance rate.

### Results

The median age and PV were 64 years old (39-93 years old) and 19.7 ml (7.4-116.6 ml), respectively. We classified the results of DRE into 5 groups; flat, F; normal, N; slightly enlarged, S; moderately enlarged, Mo and markedly enlarged, Ma. The examinees classified into F, 57; N, 297; S, 77; Mo, 21 and Ma 5, respectively. The PV was F, 16.4 ml; N, 18.3ml; S, 27.0 ml; Mo, 41.9 ml and Ma, 86.3 ml, respectively. There were significant differences between each group ( $p < 0.001$  excepted for group Mo vs. Ma;  $p = 0.029$ ). Of all examinees, 385 had PV  $< 30$  ml and 72 have PV  $\geq 30$  ml. The positive predictive value (PPV) was 94.1 % if group F and N were assumed PV  $< 30$  ml but the PPV was 49.5 % if group S, Mo and Ma were assumed PV  $\geq 30$  ml. Otherwise the PPV was raised 80.8 % if group Mo and Ma were assumed PV  $\geq 30$  ml. Sixty-one percent of group S had PV  $< 30$  ml.

### Interpretation of results

94.1 % of group F and N were assumed PV  $< 30$  ml. 80.8 % of group Mo and Ma were assumed PV  $\geq 30$  ml

### Concluding message

It was able to stratify the PV according to DRE. We could recognize the prostates in group F and N as PV  $< 30$ ml and those in group Mo and Ma as PV  $\geq 30$  ml by DRE with high accuracy. TRUS was needed for those in group S to estimate PV  $\geq 30$ ml because over half of the prostates in this group were  $< 30$  ml.

### Disclosures

**Funding:** none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** none **Helsinki:** Yes **Informed Consent:** Yes