

## URODYNAMIC EVALUATION OF BLADDER FUNCTION IN OLD MAN WITH ABNORMAL VOIDING AFTER STROKE

### Hypothesis / aims of study

To evaluate the urodynamic changes of the old man over 60 years old with abnormal voiding after stroke.

### Study design, materials and methods

Urodynamic evaluation was performed in 50 elderly men with abnormal voiding after stroke including 28 cases (71.49±7.65y) with BPH and 22 (69.25±5.78y) with no BPH. Sixteen old men (70.63±6.52y) with normal voiding as control. The urodynamic parameters were compared between different groups. P value less than 0.05 is significant.

### Results

There are significant differences between the stroke group with BPH and those without BPH of maximal voiding detrusor pressure (Pdet.max.void) (54.5±9.9cmH<sub>2</sub>O vs. 46.4±8.2 cmH<sub>2</sub>O), maximal urethral closure pressure (Pmax.close.urethra) (71.4±10.7cmH<sub>2</sub>O vs. 55.6±5.6 cmH<sub>2</sub>O) and the residual (12.9±5.3ml vs. 9.0±3.4 ml) (P<0.05). The patients with no BPH and those with BPH showed a significant increase in detrusor hyperreflexia frequency compared with normal controls (72.7%(16/22) vs. 75%(21/28) vs. 10.0% (2/20)) and their maximum bladder capacity decreased significantly (298.8±112.6 ml vs. 276.5±132.21 vs. 478.6±92.6 ml), p < 0.05.

### Interpretation of results

Previous research have affirmed that stroke can induce inhibitory action from centrum of bladder control located in the brain to the centrum of micturition reflex located in the lumbosacral portion weaken, which can bring about detrusor hyperreflexia.

Weaken or disappearance of detrusor reflex occurred in the convalescence or complications issue in a few of examples of the stroke group, indicating there may be severe damage or irreversible change in the related central nervous system after stroke.

The research find the notable increase of the incidence of detrusor hyperreflexia indicated that it may have some connection with the notable decrease of bladder volume in the stroke group compared to normal control.

Compared with the stroke without BPH, the stroke with BPH showed significant increase in the maximal voiding detrusor pressure (Pdet.max.void), maximal urethral closure pressure (Pmax.close.urethra) and the residual, which indicates BPH exert a certain action. The bladder function of the stroke patient with BPH may have entered into the compensatory stage before stroke. There is not significant difference between the stroke with BPH and without BPH in the incidence of detrusor hyperreflexia, but the stroke with BPH have showed a increasing tendency. It is still need to be further evaluation in the future due to the limitation number of the patients..

### Concluding message

The significant changes in urodynamic evaluation in cases with BPH after stroke indicating the importance of treatment BPH synchronously during the stroke recovery treatment.

### References

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<b>Is this a clinical trial?</b>	<b>Yes</b>
<b>Is this study registered in a public clinical trials registry?</b>	<b>No</b>
<b>Is this a Randomised Controlled Trial (RCT)?</b>	<b>Yes</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>Yes</b>
<b>Specify Name of Ethics Committee</b>	<b>The First Teaching Hospital of Zhengzhou University REC</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>