

THE VIDEOURODYNAMIC STUDY IN NEUROGENIC BLADDER-SPHINCTER DYSFUNCTION WITH UPPER URINARY TRACT DILATION

Hypothesis / aims of study

Neuropathic bladder-sphincter dysfunction (NBSD) is a common disorder caused by neuropathic damage. The decrease of bladder compliance and increase of bladder pressure in late filling phase is related to upper urinary tract dilation (UUTD) and renal damage. However, different views over relationship between UUTD and bladder dysfunction arose loads of argument. The aim of this study is to explore the character of the neurogenic bladder-sphincter dysfunction (NBSD) with upper urinary tract dilation (UUTD) by using X-ray videourodynamic study.

Study design, materials and methods

The X-ray videourodynamic study was performed in 30 NBSD patients, of which 15 patients had UUTD and 15 patients did not have UUTD. The urodynamic parameters and bladder shape were compared. Chi-square test was used to determine rate differences between the two groups. SPSS 16.0 was used for statistical analysis. $P < 0.05$ was considered to be statistical significant.

Results

The incidence of irregular bladder shape, destructor acontractile (ACD) was higher, the bladder compliance (BC) significantly lower, destructor leak point pressure (DLPP) and post-void residual volume (PVR) significantly higher in patients with UUTD than those without UUTD.

Interpretation of results

Irregular shaped bladder was found in 80 % (12 cases) of the patients with upper urinary tract dilation, which was higher than that of control group (29%, 7 cases, $P < 0.05$). Among them, 16 cases accompanied with coarse bladder wall, 11 cases with trabecula and diverticulum, 7 cases with an "Christmas tree-like" or "pagoda-like" bladder, whereas trabecula and diverticulum was found in 3 cases (14%) in the control group.

The compliance of patients with UUTD was (14.56 ± 10.14) ml/cmH₂O, which was significantly lower than that of NBSD without UUTD (26.64 ± 13.47) ml/cmH₂O ($P < 0.05$). DLPP and PVR was (34.44 ± 9.8) cmH₂O, (128 ± 75) ml respectively, which were significantly higher than those of control group (13.91 ± 8.84) cmH₂O, (64 ± 53) ml ($P < 0.05$).

There was no difference in MCC between the two groups.

The incidence of ACD in UUTD group was 85%, which was higher than that of the control group. Vesicoureteral reflux was found in 4 cases in patients with UUTD. Among them, 3 cases were reflux in low bladder pressure. None of the patients without UUTD was found reflux

Concluding message

Abnormal bladder morphology, ACD, high DLPP and the increase of PVR were important factors for predicting the occurrence of UUTD induced by NBSD. It is helpful to use videourodynamic study to evaluate bladder function and morphology, predicting UUTD.

Disclosures

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