

## ORAL PRESENTATION 3-2

척수재활

발표일시 및 장소: 10 월 18 일(금) 14:15-14:25 Room C(5F)

### OP3-2-1

#### **Types of Detrusor-Sphincter Dyssynergia in the Spinal Cord Injured And Non-Neurogenic Bladder**

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#### **Objective**

The urinary bladder function of storing and voiding urine is controlled by central and peripheral nervous systems. The pathophysiology of detrusor-sphincter dyssynergia (DSD) in neurogenic bladder is represented by disruption of spinobulbospinal tract between the pontine micturition center and Onuf's nucleus. However, dyssynergic sphincter activity can also be seen in non-neurogenic bladder. In this retrospective study, we aimed to find out the differences of dyssynergic sphincter activity patterns and urodynamic parameters in the dysfunctional bladders of spinal cord injury (SCI) and the non-neurogenic (NN) patients.

#### **Method**

One hundred and seven patients of dysfunctional voiding who conducted urodynamic study from January to March, 2018 were enrolled retrospectively. They were divided into SCI group (n=32) and NN group (n=75) by reviewing their medical records. We categorized the urodynamic study findings into 5 types according to dyssynergic sphincter activities. Type 1-3 belonged to true DSD and type 4 belonged to pseudo-DSD. And, type 5 represented patients who didn't show dyssynergic sphincter activity. We also analyzed their urodynamic parameters such as bladder capacity, compliance, detrusor leak point pressure (DLPP), peak detrusor pressure (PdetQmax), post-void residual urine volume (PVR) and electromyographic activity of the sphincter.

#### **Results**

37.3% (28 out of 75 patients) of NN group and 84.4% (27 out of 32 patients) of SCI group showed dyssynergic sphincter activity, respectively. Pseudo-DSD was shown in 3.6% (1 out of 28 patients) and 22.2% (8 out of 36 patients) prevalence in each SCI group and NN group. Bladder capacity was significantly higher in SCI group (mean=456.78) than NN group

(mean=368.04) who had true DSD ( $p < 0.05$ ). There were no significant differences in other urodynamic parameters between SCI group and NN group. And, DLPP, PdetQmax, and PdetQmax (flow) were significantly higher in true DSD group (mean=30, 45, 39, respectively) than pseudo-DSD group (mean=18.78, 25.56, 18.33, respectively) in all patients.

### **Conclusion**

Detrusor-sphincter dysfunction was not infrequent in patients with NN bladder. And those who have cord injury had higher bladder capacity than non-neurogenic bladder among true dyssynergic sphincter dyssynergia. Also, pseudo-DSD which caused by contraction of abdominal muscle or pelvic floor muscle can be shown not uncommonly during the urodynamic study. Further studies with prospective and good design are necessary for more valuable clinical findings.

Key words Detrusor-sphincter dyssynergia, Neurogenic bladder, Dysfunctional voiding