

척수재활

발표일시 및 장소 : 10 월 26 일(금) 15:15-15:25 Room D(5F)

## OP3-2-7

### **Safety of Urodynamic study for SCI patients with Asymptomatic pyuria or Bacteriuria**

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#### **Purpose**

1. Finding the percentage of incidental pyuria and bacteriuria in spinal cord injury patients 2. Assessing the impact of asymptomatic pyuria and bacteriuria on urinary tract infection after urodynamic studies in spinal cord injury patients when prophylactic antibiotics are administered.

#### **Objectives & Methods**

Patients were recruited from August 2015 to December 2016. A total 227 consecutive patients with spinal cord injury underwent urodynamic study during period were included in this study. UTI definitions ÿ Pyuria:  $\geq 10$  WBCs per HPF in urine microscopic examination ÿ Bacteriuria:  $> 10^5$  CFU per ml in urine culture ÿ Symptomatic UTI : Pyuria + newly developed (fever or urethral pus discharge) All patients received urinalysis and urine culture in admission. Urinalysis and urine culture was done within 12 hours before urodynamic study. We use ciprofloxacin for First line Prophylactic antibiotics. Cefaclor was used for second line if previous urine culture in admission showed resistance to ciprofloxacin or when patients have contraindication for using ciprofloxacin. Prophylactic antibiotics was administered orally for 5 days after sampling urine. Twenty four hours after urodynamic study, urine microscopic examination and urine culture was done. We designed the criteria to define symptomatic UTI based on urine microscopic examination. Symptomatic UTI was defined as presence of pyuria with newly developed fever or urethral pus discharge. Fisher's exact test was used to compare the incidence of symptomatic UTI after urodynamic study. The level of statistical significance was defined as  $p < 0.05$

#### **Results**

Of total 227 urine samples before urodynamic studies, pyuria was detected in 99 samples (44%), bacteriuria was detected in 159 samples (70%) . Symptomatic UTI was observed after urodynamic study in 5 patients. All 5 patients had a fever. 3(3.03%) of 99 patients had pyuria and 2 (1.56%) of 128 patients did not before urodynamic study present symptomatic UTI. There was no statistical difference ( $P=0.431$ ) between two groups. 3(1.88%) of 159 patients had bacteriuria and 2(2.94%) of 68 patients did not before

urodynamic study present symptomatic UTI. There was also no statistical difference (P=0.212) between two groups.

### Conclusion

Asymptomatic pyuria(44%) and bacteriuria(70%) was observed in many spinal cord injury patients. With oral prophylactic antibiotics, there was no significant difference of incidence of symptomatic UTI after urodynamic study between the patients who had pyuria or bacteriuria and patient did not. these Results suggest that Asymptomatic Pyuria and Bacteria do not increase UTI risk after UDS if prophylactic antibiotics are used.

**Table 1. Comparison of general characteristics between Pyuria (n=99) and No-pyuria groups (n=128)**

Variable	Pyuria(n=99)	No Pyuria(n=128)	Total
AGE	49.8+-15.17	47.1+-13.45	48.2+-15.17
Gender			
Male	58 (58.5)	96 (75)	154 (67.8)
Female	41 (41.5)	32 (25)	73 (32.2)
Neurological level			
Tetraplegia	46 (46.4)	62 (48.4)	108 (47.5)
Paraplegia	53 (53.6)	66 (51.6)	119 (52.5)
AIS			
A	33 (33.3)	38 (29.6)	71 (31.2)
B	14 (14.1)	17 (13.2)	31 (13.6)
C	16 (16.1)	23 (17.9)	39 (17.1)
D	36 (36.3)	50 (39.0)	86 (37.8)

**Table 2. Incidence of symptomatic Urinary Tract Infection after UDS**

		After UDS		P-value
		Symptomatic UTI	no UTI	
Before UDS	no Pyuria (n=128)	2	126	0.455
	Pyuria (n=99)	3	96	
	no Bacteriuria (n=68)	2	66	0.620
	Bacteriuria (n=159)	3	156	

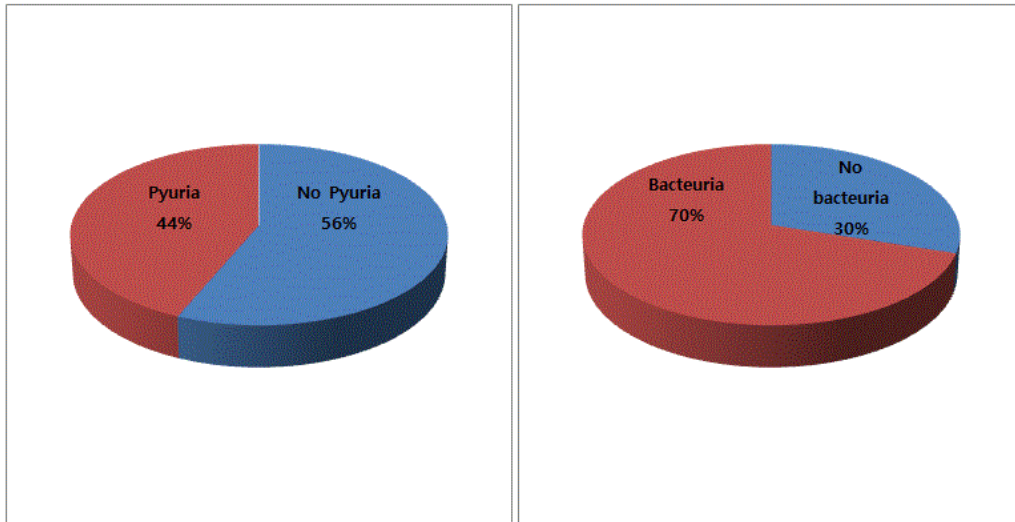


fig 1. Incidence of pyuria and bacteriuria in SCI patients.