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## **Spinal Cord Injury after Infectious Spondylitis: a Preliminary Study**

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### **Introduction**

Infectious spondylitis consists of intervertebral discitis, perivertebral abscess, vertebral osteomyelitis, epidural or intradural infections and others. Sometimes infectious spondylitis aggravated to spinal cord injury and its clinical manifestations and recovery patterns are variable. Because its etiology is various including direct invasion of infection to spinal cord, inflammation of spinal cord and external compression of the abscess. We investigated spinal cord injured patients secondary to infectious spondylitis from medical records and report it.

### **Methods**

Patients who admitted to the Department of Physical Medicine and Rehabilitation for comprehensive rehabilitation of spinal cord injury after infectious spondylitis were included. We investigated medical records and find control group with a matching of sex, age, level of neurological injury (NLI) and completeness. For these people, we found the records of gait function (functional ambulatory category, FAC), mobility (modified Rivermead mobility index, MRMI), activity of daily living (ADL) and motor function using sum of motor score (of ASIA Impairment Scale) Mann-Whitney U tests were done using IBM SPSS 20.0.

### **Results**

8 patients with SCI after infectious spondylitis were included. For the control group, another 8 patients with traumatic spinal cord injury patients were found. Demographic features were noted in Table 1. They showed no differences between the groups for the gain of FAC, MRMI, ADL percent and motor score. (Table 2)

### **Conclusion**

There seem to be no differences in functional gain during comprehensive rehabilitation program between infectious spondylitis and traumatic spinal cord injury group.

**Table 1. Demographics**

	<b>Infectious Spondylitis Group (N=8)</b>	<b>Control Group (N=8)</b>
Age	65.0 [60.0;75.5]	61.0 [52.5;71.5]
Sex		
- Female	2 (25.0%)	2 (25.0%)
- Male	6 (75.0%)	6 (75.0%)
NLI		
- cervical	2 (25.0%)	2 (25.0%)
- lower thoracic	1 (12.5%)	2 (25.0%)
- upper lumbar	5 (62.5%)	4 (50.0%)
Completeness		
- motor complete (AIS A, B)	1 (12.5%)	1 (12.5%)
- motor incomplete (AIS C, D)	7 (87.5%)	7 (87.5%)
Onset from injury(months)	84.5 [39.0;99.5]	41.0 [23.5;102.0]
Hospital days	39.5 [28.5;46.5]	34.0 [26.5;41.0]

**Table 2. Functional gain between the groups.**

	<b>Infectious Spondylitis Group (N=8)</b>	<b>Control Group (N=8)</b>	<b>p</b>
FAC gain (score)	0.75 [ 0; 2]	1 [ 0; 3]	0.680
MRMI gain (score)	5.0 [ 2.0; 8.0]	5.0 [ 4.0; 7.0]	0.927
ADL gain (percent)	7.0 [ 3.0;16.5]	7.0 [ 4.2;11.1]	0.954
Motor score gain (score)	0.0 [ 0.0; 3.0]	2.5 [ 1.5; 6.0]	0.087

\* statistic analysis was done by Mann-Whitney U test

\* FAC: Functional Ambulatory Category

\* MRMI: Modified Rivermead Mobility Index

\* ADL gain: gain of the percent of ADL evaluation (MBI and SCIM II)

\* Motor score: sum of motor score of ISNCSCI (ASIA Impairment Scale)