ISCOS
The International
Spinal Cord Society

TURKISH
SOCIETY OF
SPINAL CORD
DISEASES

October 28 - 30, 2013
İstanbul / TURKEY

FINAL PROGRAM & ABSTRACT BOOK

www.iscos2013.org

Wednesday, 30th October 2013

W-018 — Hall: A / 15.20-16.50

Autonomic Dysreflexia: A Clinical Entity not to Be Overlooked After Spinal Cord Lesion

Chair: Christina-Anastasia Rapidi

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Introduction:
Tetraplegia or high paraplegia due to spinal cord injury (SCI) is associated with significant dysfunction not only of the somatic nervous system but the autonomic nervous system too. This dysfunction mainly refers to the sympathetic nervous system and not to the parasympathetic nervous system, which in a significant portion bypasses spinal cord through the X cranial nerve.
Autonomic dysreflexia (AD) can occur in anyone with a SCI at or above sixth thoracic neurotome and it is a potentially life-threatening acute condition due to an excessive, uncontrolled sympathetic output in response to a noxious or no noxious stimulus below the level of injury.
The aim of this workshop is to shed light on some special aspects of AD. The development of AD in different groups and situations (adults/children, complete/incomplete lesions, acute/sub acute and chronic SCI, bladder activity/sexual activity) may influence the differential diagnosis and management of the syndrome. The significance of early diagnosis and special types of AD will be addressed. The proper preventative measures in order to avoid serious long-term consequences of repetitive AD episodes will be also discussed. The importance of educational programs for patients, their families and health-care providers and the AD emergency card will be highlighted.

Topics that will be addressed (90min):
1. Introduction. What AD means pathophysiologically

2. Special aspects: Early and late onset of AD. The "silent" AD. AD impact on cardiovascular system.
The sympathetic reflex activity of the cord may do not be abolished during spinal shock. The differential diagnosis of AD during acute phase of SCI should be kept in mind. The development and severity of AD, in the chronic phase of SCI, has been correlated with the negative side of neuroplasticity. Does the under-diagnosis of AD (silent AD) play a role?
The impact of AD episodes on cardiovascular system is underestimated; cases of silent myocardial ischemia during an episode of autonomic dysreflexia have been reported. Is AD another predisposing negative factor for cardiovascular disease or AD just unmasks it?

3. AD in different groups of patients.
Are there differences concerning the age, the completeness of injury and the etiology of SCI?

4. Malignant AD.
Severe AD develops with a tendency of progressive worsening even when the alleviating factor is removed. Are all the patients with SCI candidates to present malignant AD?

5. AD educational programs. AD emergency card
Is there a need for AD educational programs for patients, their families and health-care providers? Is there a need for an AD emergency card carried by the patients with SCI at or above T6?

6. Therapeutic management of AD.
Which is the best therapeutic approach during an acute episode of AD. Is the long-term management of AD necessary? Can episodes of malignant AD be prevented?

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Autonomic dysreflexia: a misdiagnosed syndrome in emergency departments of general hospitals

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Objective:
The Health Ministry in Greece works towards the adoption of a triage system for emergency admissions at hospital. It is a system with no special guidelines for patients with spinal cord injury (SCI). Autonomic dysreflexia (AD) is a potentially life-threatening condition if not diagnosed and treated promptly. The aim of this study is to highlight the need to inform health care providers in general hospitals of Greece concerning AD.

Material-Methods:
We asked 33 nurses and 104 doctors to answer a brief questionnaire concerning a hypothetical admission of a patient with tetraplegia and symptoms of AD in the emergency department (ED). The participants were asked which would be the first thing to do.

Results:
Twenty-nine participants (21%) refused to answer the questionnaire. The 68.0% of nurses answered that they directly give instructions to lie down the patient and monitor vital signs until the doctor on duty comes. The 42.2% of doctors answered that they monitor vital signs and ask for an urgent brain CT. Eighty two out of 108 (75.9%) of participants answered incorrectly ($p<0.05$) and 73 out of 108 (67.6%) mentioned no knowledge at all for AD. The 92.6% of participants believe that it would be useful for the SCI patients to carry with them an AD emergency card, i.e. a card with a few words about this particular syndrome, instructions for emergency treatment, patient's history, and contact telephone of the Rehabilitation department which is responsible for the follow up of this patient.

Conclusion:
Our results do not differ much from other countries as other authors refer similar results, even in hospitals with spinal cord units. The management of AD in ED of a general hospital in Greece can be improved through education of health care providers and incorporation of strategies such as the use of AD emergency card.

Keywords: Spinal cord injury, autonomic dysreflexia, tetraplegia