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Autonomic Dysreflexia

Juan D Martina^{1,2}¹Rehabilitation Centre Curacao, Curacao²Curaçao Medical Centre, Curacao

Long term, secondary medical complications play an important role in the chronic care for individuals with spinal cord injury (SCI). In a study published by Mc. Kinley et al almost two decades ago in Archives of Physical Medicine and Rehabilitation, pressure ulcers, autonomic dysreflexia (AD), and pneumonia/atelectasis were the most common long-term secondary medical complications found at annual follow-ups. Risk factors included complete injury, tetraplegia, older age, concomitant illness, and violent injury. Autonomic dysreflexia is a well-known clinical emergency in subjects who have had an SCI and it can be life threatening. It especially occurs in patients with an injury at level T6 or above. An episode of AD is characterized by the acute elevation of arterial blood pressure and bradycardia, although tachycardia also may occur. Objectively, an increase in systolic blood pressure greater than 20 to 30mmHg is considered a dysreflexia episode. The most important clinical signs and symptoms of AD include: 1. feeling of anxiety. 2. severe headache. 3. profuse sweating above the level of injury. 4. flushing and piloerection (body hair “stands on end”) above the injury. 5. dry and pale skin caused by vasoconstriction below the level of injury. 6. blurred vision. 7. nasal congestion. 8. bradycardia, cardiac arrhythmias, atrial fibrillation. Most common triggers of AD are from stimuli such as a full bowel and/or bladder, or sexual arousal. Untreated episodes of AD may have serious consequences, including intracranial hemorrhage, retinal detachment, seizures, and death. It has been observed that the higher the injury level, the greater the degree of clinically manifest cardiovascular dysfunction. Another important factor relating to the severity of AD is the completeness of the spinal injury; only 27% of patients with incomplete tetraplegia present with signs of AD, in comparison with 91% of patients with tetraplegia with complete lesions. While AD occurs more often in the chronic stage of SCI at or above the sixth thoracic segment, there also is clinical evidence of episodes of AD in the first days and weeks after injury. The identification and elimination of specific triggers for AD (eg, distended bladder) are considered the first line of treatment based on physiologic rationale and expert consensus, but there are virtually no controlled trials that evaluate these effects. When nonpharmacologic actions are ineffective in an acute episode, pharmacologic agents are required, and nifedipine, nitrates, and captopril are the most commonly used and recommended agents. However, only nifedipine is supported by controlled trials (level 2). More research is needed to establish the most appropriate therapeutic options.

Biography

Juan D Martina, MD Physiatrist, is currently senior consultant at Rehabilitation Centre Curacao, Dutch Caribbean. Until the 1st of October 2015 he was the chairman of the rehabilitation department and director of the P&RM Residency program at Medisch Spectrum Twente Hospital and vice-chairman of the Medical Staff of Roessingh Rehabilitation Centre in Enschede, The Netherlands. Dr. Juan Martina was the president of the the Dutch Society of Physical and Rehabilitation Medicine (VRA) from March 2009 until November 2014 and was vice-chairman of the National Innovation Steering Committee of the association of rehabilitation hospitals (RN) until 2015. Since 2014 Juan Martina also chaired the National Working Groep for the development of Clinical Guidelines for Spasticity Treatment, that was published in 2017. His areas of interest are healthcare management, traumatic brain injury, spasticity and medical technology. With his experience in these fields Dr. Martina has contributed in numerous occasions as an invited lecturer to different scientific conferences worldwide.

judamaster@gmail.com
juan_martina@srggroep.org

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