Effect of short term spinal cord stimulation on complete traumatic paraplegia - Submitted: 3/26/2018

General Information

Abstract Title:	Effect of short term spinal cord stimulation on complete traumatic paraplegia
Study Design:	Clinical Trial
Preferred Format:	Any Format
Subject Category:	Pain
Award Consideration:	

Scientific Content

Introduction:	Angeli and colleagues in 2014 issue of Brain presents a novel strategy for the treatment of SCI . In their study, 4 patients with complete motor SCI regained voluntary movement of their legs through the epidural stimulation soon after implantation of the device (1) The main limitation of this work is the small number of the enrolled patients and very expensive rehabilitation program (2) It is still unknown if independent short term spinal cord trial without any rehabilitation program will have any effect on spinal cord functions in chronic complete paraplegia.
Methods:	twenty patients with complete traumatic paraplegia more than one year as documented with electro-physiological studies had spinal cord stimulation trial with low frequency tonic stimulation at the level of T11 T12 between June 2014 and October 2017. Patients have the trial for five to seven days.
Results:	Eight patients (40%) had positive results . one patient (5%)had improvement of spasticity without any sensory or motor improvement the other seven patients (35%) who improved all had improvement in superficial and/or deep sensation in addition to: one patient (5%)had improvement of spasticity and bladder control in addition to sensory improvement without any motor improvement. two (10%) patients had improvement in motor power and sensation without significant improvement in bladder control. one (5%) of the patients had improvement in all functions motor power, spasticity and bladder control in addition to sensory improvement. the remaining three patients had only improvement in sensation.

Conclusions:	Spinal cord stimulation is a promising treatment for some but not all patients with chronic traumatic paraplegia. Further imaging and neurophysiological studies are needed to investigate the underlying factors that differentiate the non-responders and the different type of responders. Our study showed that short term Spinal cord stimulation had significant rate of positive results. It also showed that spinal cord stimulation has independently resulted in improvement without combination with rehabilitation program. waiting for further technological advances that can make spinal cord stimulation more affordable, We propose the feasibility of low cost short term spinal cord stimulation trial to predict response to the more expensive permanent implant similar to the situation in pain management.
Learning Objectives:	complete traumatic paraplegia has different types. spinal cord stimulation is a promising treatment for traumatic paraplegia
Keywords:	spinal cord, stimulation, traumatic paraplegia
How will your research improve patient care:	1-offering permanent spinal cord stimulation to patients selected by positive response to trial. 2-The use of spinal cord simulator alone or with simple rehab program can improve motor power in complete traumatic paraplegia without the need for very expensive rehab program

Attachments:

Authors:

Author	Disclosure	Presenting	Corresponding	CoAuthor
Jan Gouda		X	X	