

ERECTILE DYSFUNCTION IN MALE PATIENTS WITH TRAUMATIC SPINAL CORD INJURY

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ABSTRACT

Objective: To assess the sexual function of male patients with spinal cord injury (SCI) in comparison with healthy control subjects and to find out whether there was a relationship between International Index of Erectile Function (IIEF) scores and clinical parameters regarding SCI.

Material and Method: Twentynine SCI patients and 30 able-bodied volunteers were enrolled in the study. Their sexual status was questioned face-to-face by using IIEF, a 15-item form with five subscales.

Results: All IIEF domains were significantly better in the control group ($p<0.01$). In SCI group, within group analysis showed that incomplete SCI patients had higher IIEF scores in all sub parameters than complete patients ($p<0.01$). All IIEF sub parameters showed significant positive correlations with the American Spinal Cord Injury Association (ASIA) scores.

Conclusion: In the light of our results, we imply that IIEF is an appropriate scale for evaluating sexual functions, in correlation with the clinical parameters, in male patients with SCI.

Keywords: Male spinal cord injuries, erectile dysfunction. Nobel Med 2016; 12(1): 26-29

TRAVMATİK SPİNAL KORD YARALANMALI ERKEK HASTALARDA EREKTİL DİSFONKSİYON

ÖZET

Amaç: Spinal kord yaralanmalı (SKY) erkek hastalarda seksüel fonksiyonların sağlıklı kontrollerle karşılaştırılarak değerlendirilmesi ve International Index of Erectile Function (IIEF) skorları ile SKY klinik parametreleri arasında ilişki olup olmadığının tespit edilmesidir.

Materyal ve Metot: Yirmidokuz SKY hastası ve 30 sağlıklı gönüllü çalışmaya alındı. Seksüel durumları yüzyüze yapılan görüşme ile 15 maddeli ve beş alt ölçekli IIEF kullanılarak sorgulandı.

Bulgular: Tüm IIEF değerleri kontrol grubunda anlamlı olarak daha iyi bulundu ($p<0,01$). SKY grubunda yapılan grup içi analiz, inkomplet SKY hastalarının, tüm IIEF alt ölçeklerinde, komplet hastalara göre daha yüksek skorlar elde ettiğini gösterdi ($p<0.01$). Tüm IIEF alt ölçekleri American Spinal Cord Association (ASIA) skorları ile pozitif korelasyon gösterdiler.

Sonuç: Bulgularımızın ışığında, IIEF'nin SKY'li erkek hastalarda seksüel fonksiyonların değerlendirilmesinde, klinik parametrelerle korelasyon içinde olan, uygun bir skala olduğunu düşünüyoruz.

Anahtar kelimeler: Erkek spinal kord yaralanması, erektil disfonksiyon. Nobel Med 2016; 12(1): 26-29

INTRODUCTION

Spinal cord injury (SCI) is a disease that causes severe physical, social and psychological problems. Overall, there are 276,000 individuals with SCI in USA and each year approximately 12,500 newly diagnosed SCI cases are added. Eighty percent of these cases are men.^{1,2} Nowadays, life expectancy of these patients is improved due to increased possibility for treatment and rehabilitation after SCI. Nevertheless, most of the patients with SCI have lifetime morbidity.

Sexual problems are also important besides many other medical complications seen during the follow up of these patients.³ It is reported that sexual desire was reduced and that only one fourth of the male patients with SCI could have sexual performance allowing sexual intercourse.⁴ Accordingly, sexual evaluation has become an important issue in the rehabilitation of these patients also of which rehabilitation physicians should be aware.

International Index of Erectile Function (IIEF) (15 item form) is one of the most commonly used scale to evaluate sexual function in male patients; however, besides other scales used to assess the sexual problems of SCI patients, there are only a few reports regarding the use of IIEF in SCI.⁵⁻⁸

The purpose of this study was to two-fold; first we aimed to assess the sexual function of male patients with SCI in comparison with healthy control subjects and second, we aimed to find out whether there was a relation between IIEF scores and clinical parameters regarding SCI.

MATERIAL AND METHOD

Twenty-nine random SCI patients -who had been under follow up in our Spinal Cord Unit with at least six months of duration after the injury- and thirty able-bodied volunteers (recruited from healthy hospital staff) were enrolled in the study (Figure 1). All patients were classified according to the American Spinal Injury Association (ASIA). Demographic and clinical features of the patients were recorded. Patients with erection problems before SCI and patients who do not wish to participate in the study were not included in the study.

The patients sexual status were questioned face-to-face by using IIEF, a 15-item form with five subscales: erectile function (EF) (total point=30), orgasmic function (OF) (total point=10), sexual desire (SD) (total point=10), intercourse satisfaction (IS) (total point=15), and overall satisfaction (OS) (total point=10) and higher scores indicate better sexual function.⁹ The Turkish version of the IIEF were used in the study.

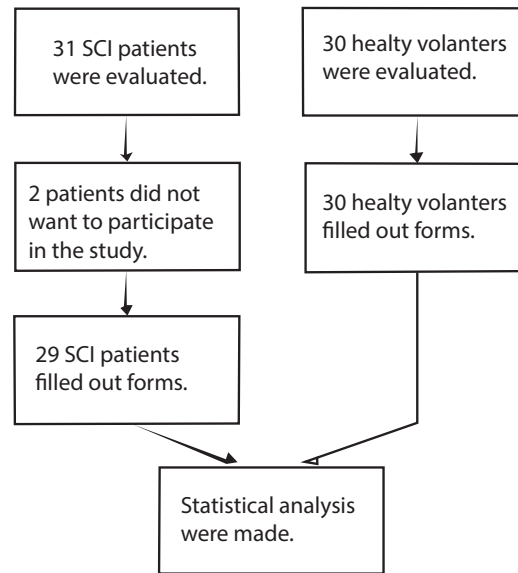


Figure 1: Flow chart of the study.

SCI: Spinal cord injury

Table 1: SCI patients' characteristics	
Mean age (year)	35.2±7.9 (23-49)
Mean duration of injury (year)	8.3±5.4 (2-28)
Etiology	Falling down 31.0% Traffic accident 41.4% Gunshot 27.6%
Mean ASIA	
Motor score	60.0±16.2
Pinprick score	71.9±21.6
Light touch score	71.0±23.4
Intermittent urinary catheterisation rate	89.7%
Mean urinary catheterisation period (hour)	4.4±1.7
Marriage rate	62.1%

SCI: Spinal cord injury, ASIA: American spinal cord injury association

Statistical analysis was performed by using SPSS 15.0 software package. Mean values of the groups were compared by using Mann Whitney U test and correlations were evaluated with Spearman coefficient. Numerical values were not fit to a normal distribution. The level of significance was accepted as $p<0.05$.

Written and verbal informed consent was obtained from the patients.

RESULTS

The mean age values were 35.2±7.9 and 33.6±6.8 years, in the SCI and control groups respectively ($p>0.05$). SCI patients' characteristics are summarized in Table 1. According to ASIA classification, 11 patients were ASIA A, four patients were ASIA B, one patient was ASIA C, and 13 patients were ASIA D.

Comparison of SCI and control groups revealed that all IIEF domains were significantly better in the control

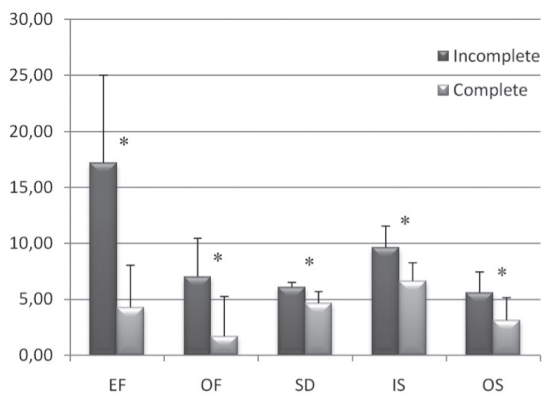


Figure 2: Comparison of incomplete and complete SCI patients in terms of IIEF domains. IIEF: International index of erectile function, EF: erectile function, OF: orgasmic function, SD: sexual desire, IS: intercourse satisfaction, OS: overall satisfaction, *: $p < 0.05$.

	SCI (n=29)		Control (n=30)		p
	Mean	SD	Mean	SD	
EF	10.96	10.09	28.48	3.19	<0.05*
OF	4.44	4.36	9.32	1.53	<0.05*
SD	5.37	1.08	7.22	1.58	<0.05*
IS	8.20	2.33	12.51	2.59	<0.05*
OS	4.41	2.26	8.48	1.84	<0.05*

IIEF: International index of erectile function, EF: erectile function, OF: orgasmic function, SD: sexual desire, IS: intercourse satisfaction, OS: overall satisfaction, SCI: spinal cord injury, *: statistically significant

		EF	OF	SD	IS	OS
ASIA-motor score	r	0.53	0.57	0.67	0.48	0.56
	p	<0.05*	<0.05*	<0.05*	>0.05	<0.05*
ASIA-pinprick score	r	0.56	0.58	0.68	0.52	0.59
	p	<0.05*	<0.05*	<0.05*	<0.05*	<0.05*
ASIA-light touch score	r	0.55	0.58	0.67	0.51	0.58
	p	<0.05*	<0.05*	<0.05*	<0.05*	<0.05*

IIEF: International index of erectile function, EF: erectile function, OF: orgasmic function, SD: sexual desire, IS: intercourse satisfaction, OS: overall satisfaction, ASIA: American spinal cord injury association *: statistically significant

group (Table 2). In SCI group, within group analysis showed that incomplete SCI patients had higher IIEF scores in all sub parameters than complete patients (Figure 2).

When the correlations between ASIA-motor, pinprick and light touch scores and IIEF parameters were tested; all IIEF domains showed significant positive correlations with the ASIA scores (Table 3).

Because of insufficient number of patients, comparison according to the lesion level were not made.

Our results showed that SCI patients exhibited significantly lower IIEF scores than the control group and complete patients had significantly lower scores than incomplete patients. Intra-group analysis of the SCI group showed that all IIEF sub parameters positively correlated with ASIA scores.

All participants expressed that they wanted to have education on SCI and sexuality.

DISCUSSION

In different studies, researchers have used various questionnaires; every sexual evaluation form is not suitable for SCI patients. We have assessed the sexual status of SCI patients with IIEF. This questionnaire is usually used for evaluating the effects of aging or various medical treatments on erectile dysfunction in patients with SCI.^{6,9,10} Similar to our study, Sipski *et al* demonstrated that patients with incomplete SCI had better sexual functions than those with complete SCI.⁷ In a recent study, Cardoso *et al* found that sexual desire was not changed when compared with the healthy group, however in our study, sexual desire was significantly lower in SCI patients.¹¹

In the assessment of erectile dysfunction, IIEF has been accepted as the gold standard.^{5,12} It has been linguistically validated in 32 languages and used as a primary endpoint in more than 50 clinical trials. The most important deficiencies in IIEF are lack of evaluation of partner relationship and non-erectile aspects of sexuality. It is reported that the index should not be used as a surrogate of detailed sexual history, rather should it be used as an adjunct to the main examination.⁸ There are some other issues that must be considered when evaluating SCI patients with IIEF. First of all, IIEF domains do not measure sexual function directly. These sub parameters represent subjective assessment of the sexual condition. For various psychological reasons, patients might present themselves different than their actual condition. Some SCI patients prefer to give priority to their rehabilitation programs regarding hand skills and sexual health might not be their primary concern. According to a questionnaire applied to high level SCI patients, sexual problems were not among the most important three problems.¹³ Various socio-cultural factors may suppress patients to express their sexual conditions frankly. In our country, it is well-known that also other individuals who suffer from sexual incompetence hardly express their problems. Patients might inadequately understand some of the questions on the 15-item questionnaire. To overcome that difficulty and to shorten the evaluation time, IIEF constructed a short form.^{14,15} While using the translation of IIEF in different languages the

examiner must be attentive. For example, in a recent study, Serefoglu et al demonstrated that Turkish version of IIEF lost its validity and reliability in elderly subjects with low education and income levels.¹⁶

Reduced sexual activity was found in 88% of the patients with SCI. The pertinent reasons would be failure in having a chance for sexual relationship (66%), ineffective personal satisfaction (59%) and moral values (7%). Sexual satisfaction has been reported as 84% before trauma whereas 35% after trauma.³ Sexual dysfunction is not merely a problem of young SCI patients. Lombardi et al demonstrated that sexual problems continued even 20 years after SCI.⁶

Nowadays, health care providers understand better the place of sexuality during rehabilitation. In order to improve the life quality of SCI patients, besides other functions, it is important to restore sexual functions as well. Accordingly, rehabilitation specialists should evaluate the sexuality of their patients besides other system evaluations. In this sense, the use of adequate assessment methods is important and IIEF seems to be an appropriate method -also correlating with the clinical parameters- for evaluating sexual functions in male patients with SCI.

* The authors declare that there are no conflicts of interest.



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