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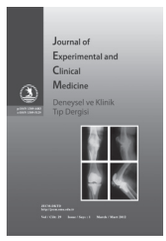

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Assessment of sexual dysfunction in women with Behcet's disease

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ABSTRACT

Behcet's disease (BD) is a progressive inflammatory disease which urogenital involvement mainly consists of genital aphthous ulcers, urethritis and recurrent cystitis. We evaluated female sexual dysfunction (FSD) in women with BD and investigate whether coexistent depression has an effect on sexual functions. A total of 25 women with BD and 25 age voluntary healthy women who served as the control group were evaluated with a detailed medical and sexual history, including female sexual function index (FSFI) questionnaire and the Beck Depression Inventory (BDI). Serum steroid hormone levels were measured in all subjects. The group with BD had higher scores for BDI than the control patients ($p<0.001$) and the mean FSFI score was significantly lower than the score for the controls. FSD was diagnosed in 14 of 25 BD patients (56%), while 4 of 25 healthy women (16%). Women with BD scored worse on all domains of FSD than did the controls ($p<0.001$). In the correlation analysis, the FSFI score indicated a significant negative correlation with the BDI score ($r=-0.901$, $p<0.001$).The results of our study have shown that female patients with BD have distinct sexual dysfunction compared with healthy controls and coexistent depression has an additional negative effect on sexual function.
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1. Introduction

Behcet's disease (BD) is a chronic relapsing multisystem disease with inflammation of the arteries and veins of unknown etiology (Erdoğru et al., 1937; Cetinel et al., 1999; Saito and Miyagawa, 2000). Vasculitis is believed to be the underlying pathological process. When Hulusi Behçet (1937) first described this entity in 1937, he emphasized a combination of recurrent intraocular inflammatory episodes, and oral and mucosal ulcerations. The disease can involve the skin and mucous membranes, eyes, joints, vascular system, lungs, gastrointestinal tract, and nervous system. Genitourinary tract involvement mainly consists of genital aphthous ulcers, epididymitis, urethritis and recurrent cystitis (Theodorou et al., 1999). Genital ulcerations in men develop on the scrotum and as a rule leave scars. In women the labia are commonly affected, although vaginal and cervical ulcers can also occur. The most widely accepted diagnostic criteria are those of the International Study Group (ISG, 1990).

The involvement of the central nervous system may lead to neurologic and psychiatric symptoms (Taner et al., 2007). Recently, however, it has been reported that psychiatric symptoms in BD can be seen with or without central nervous system involvement (Monastero et al., 2004). It has also known that the prevalence of depression and anxiety is higher in BD patients than healthy people (Calikoglu et al., 2001; Monastero et al., 2004; Taner et al., 2007).

Sexuality is a complex process coordinated by the neurological, vascular and endocrine systems. Sexual dysfunction is defined as a disturbance of the processes that characterize the sexual response cycle or as pain associated with sexual intercourse (Oksuz and Malhan, 2006). Similar to erectile dysfunction in men, female sexual dysfunction (FSD) is a common and important health concern influenced by medical and psychosocial factors (Anastasiadis et al., 2002; Tikiz et al., 2005). FSD traditionally includes disorders of desire/libido, arousal, pain/discomfort, inhibited orgasm and satisfaction and it is a highly prevalent health problem affecting 22% to 93% of women according to age groups (Laumann et al., 1999; Goldmeier et al., 2000; Calikoglu et al., 2001; Aydın et al., 2006). A high prevalence of sexual dysfunction in male BD patients with or without neurologic involvement was reported (Erdoğru et al., 1999; Aksu et al., 2000). How-

ever, only one study about the sexual and psychiatric status of women with BD has been reported (Kocak et al., 2008). In the present study, we aimed to investigate FSD in BD patients and evaluate whether coexistent depression has an effect on sexual functions.

2. Material and methods

A total of 25 female patients with BD with an active sexual life who were followed at the Kecioren Training and Research Hospital between October 2005 and January 2009 were enrolled in the study. The control group consisted of 25 age matched, sexually active, healthy women. Written informed consent was obtained from all BD patients and control women before the study. The diagnosis of BD was based on the criteria of the ISG in the Dermatology Department. These criteria include the presence of recurrent oral ulcers plus two of the following: recurrent genital ulcerations, typical defined eye lesions, typical defined skin lesions, or a positive pathergy test.

Subjects with hepatic, renal, pulmonary, endocrine disease such as diabetes mellitus, thyroid function disorder, and inflammatory disease such as rheumatoid arthritis were excluded the study. The other exclusion criteria were pregnancy, gynecologic or systemic disorders that may affect sexual function, such as hormonal, neurogenic, musculogenic and cardiovascular disease, and a history of psychological disorders. Women receiving antidepressant medication and other drugs known to interfere with sexual function and postmenopausal women were also excluded the study.

All subjects were married and there were no partner differences in either subject group. Demographic characteristics, including age, body mass index (BMI), educational level (primary school, high school or university graduation) and occupation status (the presence or absence of an occupation) were assessed in all women. A detailed physical examination was performed including genital examination in all subjects. All the women with BD were assessed neurologically by a neurologist. Patients with neurological findings suggestive of involvement of the nervous system by the disease were regarded as cases of neuro-Behcet's disease, and these patients were also excluded the study.

A laboratory examination, including biochemical analysis, complete blood count, erythrocyte sedimentation rate, and hormonal analysis including follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol, total testosterone, free testosterone and dehydroepiandrosterone (DHEA-S) were evaluated in all study subjects. To investigate lower extremities and carotid vessels pathologies, colour Doppler ultrasonography was performed in all BD patients.

All subjects were evaluated with a detailed medical and sexual history, including the Female Sexual Function Index (FSFI) and Beck Depression Inventory (BDI). FSFI, a self reported measure of sexual function consisting of 19 questions, which has previously been validated in the Turkish language, was used to standardize the interview regarding patient sexual life (Rosen, 2002; Kadıoglu et al., 2005). The questionnaire assessed sexual functioning or problems during last the last 4 weeks. Specific domains analyzed in FSFI were the quality of desire (questions 1 and 2), arousal (questions 3 to 6), lubrication (questions 7 to 10), orgasm (questions 11 to 13), satisfaction (questions 14 to 16) and degree of pain (questions 17 to 19). Each domain score and overall FSFI score of women with BD were compared to those in the control group. The total score range was 2 to 36. A total score of more than 25 was considered normal female sexual function and a total score of less than 25 was considered sexual dysfunction (Tikiz et al., 2005).

Patients' psychological status was measured by BDI. The BDI is a self-reported questionnaire with 21 items assessing the current levels of symptomatic depression. A selected cut-off point of 17 for BDI has been found to be a highly sensitive and specific for the diagnosis of depression (Beck et al., 1988; Fisher et al., 1999). Therefore, in this study patients with BDI scores over 17 were considered to be a depressed. As determined by BDI results, participants with depression underwent a detailed psychiatric evaluation by an experienced psychiatrist.

SPSS, version 12.0 (SPSS, Chicago, Illinois) was used for statistical analysis. Data are expressed as the mean ± SD. Differences between group variables were compared by the Mann-Whitney U test or chi-square test as appropriate. Correlations between sexual dysfunctions and depression were investigated by the Pearson correlation as appropriate with $p < 0.05$ considered statistically.

3. Results

Clinical and demographic characteristics of the patients and healthy controls are listed in Table 1.

Table 1. Clinical and demographic characteristics of 25 patients and 25 healthy controls

Characteristic	Patients (n=25)	Control (n = 25)	p Value
Age (year)	32.6±6.4	32.7±6.7	0.961
Education(%):			
Elementary school	40	44	
High school	32	36	0.256
University	28	30	
Occupation(%)			
Employed	24	28	0.209
Unemployed	76	72	
Marriage duration (year)	8.2±5.7	9.1±7.7	0.927
BMI (kg/m^2)	22.8±9.2	23.9±7.3	0.623

The two groups were comparable with respect to subject age, education, occupation, and BMI and marriage duration.

All biochemical and hormonal parameters were within normal limits in all subjects. The mean serum levels of hormones were not different from those in the control group (Table 2).

The mean BDI, FSFI and subscores of FSFI in patients and controls are shown in Table 3.

The mean total FSFI score was 22.5 (ranged from 18.6 to 26.6) in the BD group, whereas healthy women had a mean total FSFI score of 27.5 (ranged from 22.2 to 31.3).

Table 2. Hormone levels in BD patients and control groups

	Patients (n=25)	Control (n=25)	p Value
FSH (mlU/ml)	5.8±1.2	5.96±1.3	0.629
LH (mlU/ml)	3.6±1.7	3.8±1.8	0.477
Estradiol (mlU/ml)	136.7±27.2	142.2±30.1	0.391
Total testosterone (ng/ml)	0.6±0.3	0.7±0.2	0.660
Free testosterone (pg/mg)	0.3± 0.1	0.2±0.1	0.423
DHEA-S (ng/ml)	138±45.4	154±58.5	0.771

FSH; Follicle stimulating hormone, LH; Luteinizing hormone

Table 3. Mean values of BDI, overall and subscores of FSFI results in patients and controls

Variable	Patients (n=25)	Control (n=25)	p Value
BDI	19.9±4.4	11.6±2.7	< 0.001
FSFI	22.5±3.3	27.5±2.8	< 0.001
Desire	3.1±0.6	4.1±0.4	< 0.001
Arousal	3.4±0.8	4.4±0.5	< 0.001
Lubrication	3.8±0.5	4.5±0.8	< 0.001
Orgasm	3.9±0.7	4.9±0.4	< 0.001
Satisfaction	4.1±0.6	4.5±0.9	< 0.001
Pain	4.2±1.0	5.1±0.4	< 0.001
FSD (FSFI < 25) (%)	56%	16%	< 0.05
Depression (BDI ≥ 17)(%)	60%	12%	< 0.05

The mean total FSFI scores and subscores of FSFI were significantly lower than the score for controls ($p < 0.001$). FSD was diagnosed in 14 of 25 patients with BD (56%), while only 4 of 25 healthy women (16%) were found to have FSD by FSFI ($p<0.05$). The most common subtypes of FSD in BD patients were: diminished desire (15 patients, 60%), arousal problems (13 patients, 52%), orgasm problems (12 patients, 48%), lubrication problems (10 patients, 40%), satisfaction failure (10 patients, 40%), and pain was determined in only 8 patients (32%) (Fig.1).

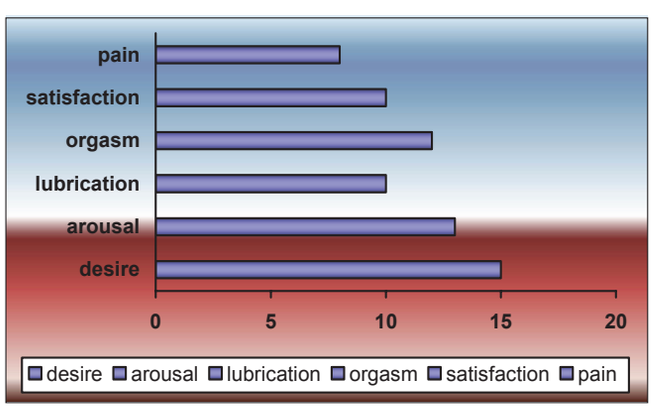

Fig. 1. FSFI subscores in BD patients

However, compared with healthy controls, BD patients had significantly higher BDI scores ($p<0.001$). Subjects with depression, as indicated by a BDI score above 17, numbered 15 (60%) in the BD group and three (12%) in the healthy group. In the correlation analyses, FSFI showed a significant negative correlation with the BDI score ($r = -0.901$, $p<0.001$) in patients. However, no significant correlation was found between the FSFI and BDI score in controls ($r = -0.075$, $p = 0.725$). There was no correlation between FSFI score and serum hormone levels in BD patients. Moreover, there were no significant correlations between educational status, occupation status, BMI and the sexual dysfunction ($p = 0.110$, $p = 0.614$, $p = 0.469$, respectively).

4. Discussion

BD is a chronic systemic disease that has the potential to affect all aspects of patients' lives including their sexual activities and relationships. Sexuality is a complex process coordinated by the neurological, vascular and endocrine systems. Sexual dysfunction is defined as a disturbance of the processes that characterize the sexual response cycle or as pain associated with sexual intercourse (Oksuz and Malhan, 2006). FSD may be primary or secondary, generalized or situational, and it has a multifactorial etiology, involving physiological, psychological, interpersonal, and sociocultural factors. In the literature risk factors for FSD are advanced age, depression, systemic diseases, and history of sexual abuse, sexually transmitted disease, lower educational attainment, life style and sexual experience (Laumann et al., 1999).

Up to now only one study has been performed to show relationship between BD and sexual dysfunction in female patients (Koçak et al., 2008). In our study, we observed that FSD was more common in patients suffering from BD than in healthy subjects. The BDI scores for BD patients were significantly greater than those for controls. There was a statistically significant negative correlation between BDI and FSFI score in BD patients. This condition might be related to decreased desire and arousal which were the most common sexual problems in our study. One of the important findings of our study is the observation of the negative effect of depression on sexual function. The prevalence of depression was found 57.7% in BD patients in a recent study. Depression and BD often coincide and the two disorders may lead to FSD (Koçak et al., 2008). In our study, the prevalence of depression in BD patients was 60% and this rate was in accordance with the literature on subjects with BD.

We used a validated, internationally established questionnaire (FSFI) to assess the prevalence of sexual dysfunction in BD patients including desire, arousal, lubrication, orgasm, satisfaction, and pain. The evaluation of sexual functional status showed that the sexual desire, arousal, and orgasm were the most common problems in our patients. In published studies, the reported frequencies of those problems have varied widely (38.1% to 60.3%, 16.3% to 43%, and 10% to 45.8%) (Laumann et al., 1999; Rosen et al., 2002; Aydın et al., 2006; Koçak et al., 2008). Desire is the first phase of female sexual function, which means a mental state created by external and internal stimuli that need a want or partake in sexual activity (Kadıoglu et al., 2005). Decreased sexual desire is the most commonly reported FSD, with 31% of women in the National Health and Social Life Survey reporting lack of sexual interest. In a national study in Canada 39% of women 18 to 44 years old reported sexual desire problems (Fisher et al., 1999). Surgically postmenopausal and aging women are at

increased risk of experiencing diminished sexual desire, most likely due to a decrease in androgens. Moreover, desire can be affected by psychological and emotional factors. In our study, diminished desire was observed in 15 patients with BD (60%), and in 4 healthy subjects (16%), and desire score showed negative significant correlation with BDI score. This condition was probably related to the depressive mood of those patients.

Arousal is ability to attain or maintain sufficient sexual excitement and sexual arousal disorder may be expressed as a lack of subjective excitement, genital lubrication, swelling or other somatic responses (Kadıoglu et al., 2005). BD is a vasculitis, genital hemodynamics might be affected, and genital blood flow can be decreased. Genital and vaginal vascularisations also effect arousal and lubrication. As was reported in the literature, arousal and lubrication problems might be related with the hemodynamic changes in pelvic organs, especially the vagina and clitoris, in BD patients (Koçak et al., 2008). Therefore, in our study we excluded the patients with abnormal colour Doppler ultrasonography of lower extremities.

The largest study to examine sexual dysfunction in patients with depression, 4.557 men and women in France with a diagnosis of major depression were surveyed on their sexual function through physician interviews and the Arizona Sexual Experience Scale (Bonierbale et al., 2003). In agreement with other studies, the most commonly reported complaint was decreased sexual desire, with approximately 59% of women reporting. Problems with lubrication and delayed orgasm were reported by approximately 18% and 14% of the women respectively. Furthermore, there was a positive correlation between sexual dysfunction and severity and duration of depression.

Depression and FSD appear to have similar aetiologies, involving neurotransmitters and hormones. A significant number of women with depression report sexual complaints, including decreased sexual desire, problems with arousal, and disorders of orgasm. It may be difficult to determine whether sexual dysfunction is primary or secondary to depressive symptoms in many women. As depressive symptoms and sexual dysfunction have negative effects on a woman's quality of life, treatment is warranted. It is known that depression and general psychiatric symptoms are higher in BD patients than in healthy persons, the causes of this relation are not yet clearly understood (Kocak et al., 2008). Calıkoğlu et al. reported a higher rate of depression in 23 BD patients in comparison with 17 psoriasis patients. Similarly, Karlıdağ et al. reported high depression levels in 34 patients. Only one report about FSD associated with BD has been published in the literature. In this study, Koçak et al. found all FSD subtypes were more frequent in BD patients than controls. Our findings were similar with these earlier studies. We observed a close significant correlation between FSFI scores and BDI score in BD patients. However, no correlation was found between FSFI and BDI score in control patients.

The limitations of this study include some deficiencies. For example we had no data on smoking intensity or duration, alcohol consumption, and lipid profile. Although clitoral Doppler ultrasonography is suggested especially for the evaluation of arousal and lubrication problems in women, we did not perform clitoral Doppler ultrasonography in all subjects enrolled in this study.

The incidence rate of sexual dysfunction is higher in patients with BD, when compared to the healthy people. In our patients, sexual dysfunction was associated with depressive mood according to the BDI scale. It is difficult to explain the exact mechanism of this relation but these findings indicate that the need for the early recognition and management of psychiatric symptoms and evaluation of the sexual functions in patients with BD. We need additional studies to evaluate the effect of BD on sexual dysfunction in women.

REFERENCES

Aksu, K., Keser, G., Gunaydın, G., Ozbek, S.S., Colakoğlu, Z., Gümüşdiş, G., 2000. Erectile dysfunction in Behcet's disease without neurological involvement: Two case reports. Rheumatol. 39, 1429-1431.

Anastasiadis, A.G., Davis, A.R., Ghafar, M.A., Burchardt, M., Shabsigh. R., 2002. The epidemiology and definition of female sexual disorders. World J. Urol. 20, 74-78.

Aydın, G., Basar, M.M., Keles, I., Ergün, G., Orkun, S., Batislam, E., 2006. Relationship between sexual dysfunction and psychiatric status in premenopausal women with fibromyalgia. Urology. 67, 156-161.

Beck, A.T., Epstein, N., Brown, G., Steer, R.A., 1988. An inventory for measuring clinical anxiety: Psychometric properties. J. Consult. Clin. Psychol. 56, 893-897.

Behçet, H., 1937. Über residivierende, aphtöse, durch ein Virus verursachte Gecchwüre am Mund, am Auge und an den Genitalien. Dermatol. Wochenschr. 105, 1152-1157.

Bonierbale, M., Lancon, C., Tignol, J., 2003. The ELIXIR study: Evaluation of sexual dysfunction in 4557 depressed patients in France. Curr. Med. Res. Opin.19, 114-124.

Calikoglu, E., Onder, M., Cosar, B., Candansayar, S., 2001. Depression, anxiety levels and general psychological profile in Behcet's disease. Dermatol. 203, 238-240.

Cetinel, B., Akpinar, I., Uygun, N., Solok, V., Yazici, H., 1999. Bladder involvement in Behçet's syndrome. J. Urol. 161, 52-56.

Erdoğru, T., Koçak, T., Serdaroğlu, P., Kadioğlu, A., Tellaloğlu, S., 1999. Evaluation and therapeutic approaches of voiding and erectile dysfunction in neurological Behçet's syndrome. J. Urol. 162, 147-153.

Fisher, W.A., Boroditsky, R., Bridges, M., 1999. Canadian contraception study 1998. Can. J. Hum. Sex. 8, 161-165.

Goldmeier, D., Judd, A., Schroeder, K., 2000. Prevalence of sexual dysfunction in new heterosexual attenders at a central London genitourinary medicine clinic in 1998. Sex Transm. Infect. 76, 208-210.

International Study Group for Behcet's Disease. 1990. Criteria for the diagnosis of Behcet's disease. Lancet. 335, 1078-1080.

Kadıoglu, P., Yalın, S.A., Tiryakioglu, O., Gazioglu, N., Oral, G., Sanli, O., 2005. Sexual dysfunction in women with hyperprolactinemia: A pilot study report. J. Urol. 174, 1921-1925.

Kocak, M., Basar, M.M., Vahapoglu, G., Mert, H.C., Güngör, S., 2009. The effect of behcet's disease on sexual function and psychiatric status of premenopausal women. J. Sex. Med. 6, 1341-1348.

Laumann, E., Paik, A., Rosen, R., 1999. Sexual dysfunction in the United States: Prevalence and predictors. J.A.M.A. 281, 537-544.

Monastero, R., Camarda, C., Pipia, C., Lopez, G., Camarda, L.K., Baiamonte, V., 2004. Cognitive impairment in Behcet's disease patients without overt neurological involvement. J. Neurol. Sci. 220, 99-104.
Oksuz, E., Malhan, S., 2006. Prevalence and risk factors for female sexual dysfunction in Turkish women. J. Urol. 175, 654-658.
Rosen, R.C., 2002. Assessment of female sexual dysfunction: Review of validated methods. Fertil. Steril. Suppl. 77, 89.
Saito, M., Miyagawa, I., 2000. Bladder dysfunction due to Behçet's disease. Urol. Int. 65, 40-42.
Taner, E., Cosar, B., Burhanoğlu, S., Calikoğlu, E., Onder, M., Arikan, Z., 2007. Depression and anxiety in patients with Behcet's disease compared with that in patients with psoriasis. Int. J. Dermatol. 46, 1118-1124.
Theodorou, C., Floratos, D., Hatzinicolaou, P., Vaiopoulos, G., 1999. Neurogenic bladder dysfunction due to Behçet's disease. Int. J. Urol. 6, 423-425.
Tikiz, C., Muezzinoglu, T., Pirildar, T., Taskın, E.O., Fırat, A., Tuzun, C., 2005. Sexual dysfunction in female subjects with fibromyalgia. J. Urol. 174, 620-623.