ORIGINAL ARTICLE

Comparison of Depression and Anxiety Levels in Patients between Behçet's Disease and Recurrent Aphtous Stomatitis.

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Abstract

The aim of this study was to determine the existing relation between the Behçet's Disease (BD), Recurrent Aphthous Stomatitis (RAU) and psychological alterations of the patient, such as depression and anxiety. 30 patients with RAU, and 30 patients with BD, and 15 patients with healthy subjects were participated in the study. Systemic, dental and aphthous ulceration anamnesias of all the patients in the study group have been taken in detail and neck-head, oral mucosa and dental examinations have been made and data has been recorded. Spielberger State-Trait Anxiety Inventory and Beck Depression Inventory have been applied. It was observed that the depression level is higher in patient with BD and RAU in comparison with healthy subjects (p<0.05). Depression may play a role in manifestations of BD and RAU.

Keyworks: Behçet's Disease, psychological factors, RAU

Introduction

Behçet's disease (BD), first described by a Turkish physician, Hulusi Behçet, is a chronic, progressive disorder that affects many systems of the body, including the joints. It is a multisystemic disease with recurrent ulceration affecting both the oral and genital mucosa. Furthermore, patients with BD suffer from lesions affecting the eye, skin, joints and vascular systems (1, 2). BD is found worldwide, but there are marked geographical differences in disease expression. The incidence of BD cases per 100,000 population varies from 80-370 in Turkey to 13.5-20 in Saudi Arabia, Iran, Korea, Japan, China, and Oman (1, 2). Unlike BD, Recurrent Aphthous Ulcerations (RAU) is the most common oral mucosal disease.

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The reported prevalence in the general population varies from 5% to 66% with a mean of 20% (3, 4). It is characterized by periodic painful, single or multiple ulcers that heal spontaneously (4, 5). Although the aetiopathogenesis of both BD and RAU have not yet been clarified, several mechanisims such as local trauma, nutritional deficiency, food hypersensitivity, genetics, infection, immunoglobulin, immune complexes and psychological stress have all been suggested as the causes of these diseases (6, 7). Previous studies have suggested that psychological disturbances such as stress and anxiety could play a role in the onset, BD and RAU (7-9). A chronic disease such as BD may lead to temporary or permanent functional disabilities and may cause some psychiatric disorders (7). Wells et al. (10) described the prevalence of psychiatric disorders in persons with or without chronic medical conditions. They found that there was a strong overall association between psychiatric disorders and medical conditions, and that persons with any recent chronic medical conditions had a high prevalence, relative to those without any chronic medical condition, of lifetime substance use disorders and recent mood and anxiety disorders (10). McCartan et al. (11) investigated the possible association between anxiety, as measured by Hospital Anxiety and Depression scale (HAD) in patients with RAU, concluding that stress may play a role in the aetiology of RAU. However, the obtained results were rather varied (7-9). Therefore, the aim of this study was to conduct a case-control investigation of influence of psychological stress on BD and RAU.

Materials and Methods

Selection of the study group

Thirty patients with BD and RAU, and 15 healthy subjects were participated in the study. Patients with BD were selected from the rheumatology out-patient clinics by expert rheumatologists, and consisted of 30 patients with BD fulfilling the International Study Group criteria (12). The diagnosis of RAU was made according the criteria of Lehner (13), and all were diagnosed as having minor or major RAU in the Department of Oral Diagnosis and Radiology, Faculty of Dentistry, Marmara University. Subjects with herpetiform ulceration or those in whom the diagnosis was not clear were excluded from the study. Fifteen healthy subjects composed of faculty personnel, participated after giving informed consent. At the time of venipuncture, none of the blood donors had been receiving

any medication or had an overt infection. The BD and RAU patients were requested to sign a written informed consent statement. The study was carried out according to the recommendations of the Helsinki declaration and the study protocol was approved by the Local Committee of Research and Ethics of Marmara University. Systemic, dental and aphthous ulceration anamnesias of all the patients in the study group have been taken in detail and neck-head, oral mucosa and dental examinations have been made and data has been recorded. The level of anxiety and depression were analysed in BMS patients and controls by means of the Speilberger State-Trait Anxiety Inventory (SAI-TAI) and Beck Depression Inventory (BDI). State-Trait Anxiety Inventory (SAI-TAI) consist of two components. Both instruments are self-report rating measures of the affective, cognitive, and physiological manifestations of anxiety in terms of current experience (i.e.state anxiety) and long-standing patterns (i.e.trait anxiety). Trait anxiety was assessed using the trait component of the SAI-TAI. It has 20 items, each scored on a scale of 1 ('almost never') to 4 ('almost always'), which relate to how patients feel generally. Beck Depression Inventory (BDI) BDI is a 21-item self-reported inventory. The items consist of symptoms of depression. Some items are related to physical concerns such as sleep disturbances and loss of weight. Other items refer to emotional (hopelessness, sorrow), motivational (willingness to work), and cognitive aspects (concentration, self-evaluation). For each symptom category, there are four sentences, and the subject chooses one according to his/her experience during the previous week. Each sentence is scored as 0, 1, 2, or 3. The sum of the points shows the level of depression. Test scores higher than 17 indicate a high level of depression. Turkish versions of these scales have been developed and thoroughly tested for reliability and validity in Turkey (14,15).

Statistical Analysis

The data were analysed with NCSS (Number Cruncher Statistical System) 2007 and PASS 2008 Statistical Software (Utah, USA). The age and gender between patients with BD - RAU, and controls were analysed by means of the chi-squared test. BDI, SAI and TAI between patients BD and RAU, and healthy subjects were evaluated by Oneway ANOVA test. P values of less than 0.05 were interpreted as significant, and the level in confidence intervals was 95%.

Results

Characteristics of the study group

Thirty patients (aged 17 – 64 years, mean 37.03±13.84 years, 12 men and 18 women) with RAU, 30 patients (aged 15-54 years, mean 38.06±8.55 years, 15 men and 15 women) with BD and 15 healthy subjects (HS) (aged 23-51 years, mean 30.26±8.98 years, 9 men and 6 women) were studied. Statistical analysis revealed no difference according to age and gender between the groups (p>0.05) (Table 1).

Evaluation of BDI, SAI and TAI between patients BD and RAU, and healthy subjects

Although no statistically significant differences were observed in relation to SAI and TAI values between BD, RAU and healthy subjects (p>0.05), there were statistically significant differences in relation to BDI (p<0.05). Subjects in healthy group had significantly lower mean values for BDI compared with patients BD (p:0.024; p<0.05) and RAU (p:0.040; p<0.05). No statistically significant differences were observed in relation to BDI values between patients with BD and RAU (p>0.05) (Table 2)(Figure 1).

Table 1. Comparison of age and gender in patients with BD and RAU, and healthy subjects

|		BD n (%)	RAU n (%)	HS n (%)	p
AGE	15-24	1 (%3.3)	7 (%23.3)	5 (%33.3)	
	25-34	11 (%36.7)	7 (%23.3)	6 (%40.0)	0.073
	35-44	10 (%33.3)	6 (%20.0)	3 (%20.0)	
	45	8 (%26.7)	10 (%33.3)	1 (%6.7)	
GENDER	Female	15 (%50.0)	18 (%60.0)	6 (%40.0)	0.431
	Male	15 (%50.0)	12 (%40.0)	9 (%60.0)	

Table 2. Evaluation of BDI, SAI and TAI between patients BD and RAU, and healthy subjects.

	BD (n=30) mean±SD	RAU (n=30) mean±SD	HS (n=15) mean±SD	p
BDI	26.43±12.43	25.76±10.39	17.26±7.54	0.022*
SAI	43.96±6.15	44.10±5.89	42.00±5.21	0.489
TAI	43.53±7.91	43.43±7.98	42.20±8.36	0.857

Oneway ANOVA test   * p<0.05

BDI (Beck Depression Inventory), SAI (State Anxiety Inventory), TAI (Trait Anxiety Inventory)

Figure 1: BDI values in the patients with BD, RAU and healthy subjects.
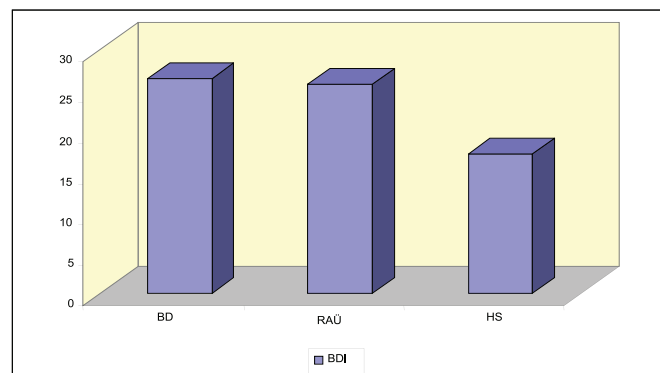
Discussion

Some reports in the literature indicate that BD and RAU may immunological, genetic, microbiological and psychiatric bases (7, 16). Anxiety and depression are seen frequently in patients with BD. The real incidence of psychiatric symptoms in BD is unknown, but psychiatric symptoms in BD have been reported in 48% of the patients (17,18). Gür et al.(7) thought that psychiatric symptoms can accompany BD because of its long-term clinical course and severe systemic complications. In their study, they observed that the depression and anxiety levels of the patients with BD were found to be high. However, it is difficult to assess whether this result is a primary finding of the disease itself or the consequence of long-term clinical progression and severe complications of BD. In contrast to Sim (19) and Borson (20) BD is a psychiatric disorder.

A variety of mechanisms may be considered as related between stres and recurrent oral ulcers. Paterson et al . (21) thought that an unknown biochemical reaction takes place or stress could possibly lead to atypical habits that injure the oral mucosa, such as bites in cheek and lips, leading to oral ulcer manifestation. Albanidou-Farmaki et al.(3) used for the evaluation of anxiety the Spielberger's STAI, a more sensitive method , which measures both trait anxiety as a general aspect of personality (STAI-T) and states anxiety as a response to a specific situation (STAI-S) and revealed a positive correlation between RAU and both state and trait anxiety; therefore it is not possible to distinguish the effect of the two components of anxiety separately, in their study. As a consequence, they cannot declare whether the RAU lesions are more related to state or trait anxiety. They determined that their study provides evidence for trait anxiety being a feature of some patients with RAU. Studies have been carried out trying to identify anxiety and depression levels in patients with RAU by means of diverse questionnaries such as the Hamilton Anxiety Depression, Hamilton Anxiety Scale and others. Despite contradictory results, psychological factors have been considered relevant to the pathogenesis of RAU (6, 9, 22). In our study, the depression values of the patients with BD and RAU were found to be found. Our results revealed that psychiatric symptoms in BD and RAU patients were more numerous than in the healthy subjects. However, it is difficult to assess whether this result is a primary finding of the disease itself or the consequence of long-term clinical progression and severe complications of BD and RAU. As the patients have higher values psychological symptoms are secondary to the disease, and these symptoms may manifest as a result of the inability to cope with the difficulties.

Acknowledgements

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