RESEARCH ARTICLE / Araştırma Makalesi

Comparasion of Psychiatric Features and Family Functioning in Adolescents with Celiac and Healthy Adolescents

Sağlıklı ve Çölyak Hastalığı Tanısı ile İzlenen Adölesanlarda Psikiyatrik Özellikler ve Aile İşlevselliğinin Karşılaştırılması

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Abstract

Objective Celiac disease (CD); is a small intestinal disease that occurs in congenital predisposing individuals at any age. Psychiatric problems may be more prevalant in celiac patients. The aim of this study is to compare psychiatric problems and family functioning through controls in patients with celiac disease and to analyze the relation between these data and adherence to celiac diet.
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Material and Methods A total of 35 adolescents aged 12-18 years with a diagnosis of celiac disease were included in the study at Tepecik education and research hospital and Celal Bayar University Pediatric Gastroenterology Clinics for at least 6 months. Our study was planned as case control study. Patients age, gender, diagnosis symptoms, socioeconomic status, celiac diet compliance, Marsh stages were recorded. Height and weight measurements were made in the outpatient clinic and celiac serology test was taken. Fourty seven patients who were referred to our pediatric outpatient clinics without known chronic disease were taken as a control. Beck depression inventory, strength difficulties questionnaire, family assessment device were performed.

Results When study and control groups were compared through beck depression inventory, those with celiac disease had statistically significantly higher scores than healthy control group. It was found that adolescents diagnosed with celiac suffer from more difficulties in emotional and social areas when study and control groups were compared through strengths and difficulties questionnaire.

Conclusion Psychiatric problems and depression are often more common in children with CD than without CD, and contribute to a decline in quality of life. For this reason, psychosocial support may be important in treatment of celiac.

Keywords Adolescents; Celiac Disease; Depression

Öz

Amaç Çölyak hastalığı; konjenital olarak yatkın bireylerde her yaşta ortaya çıkabilen bir ince bağırsak hastalığıdır. Çölyak hastalarında psikiyatrik sorunlar sağlıklı bireylere kıyasla daha yaygın olabilir. Bu çalışmanın amacı çölyak hastalığı olan hastalarda psikiyatrik sorunları ve aile işlevini kontrol etmek ve bu verilerle çölyak diyetine uyum ile arasındaki ilişkiyi incelemektir. **(Sakarya Tıp Dergisi 2018, 8(4):720-725).**

Gereç ve Yöntem Çalışmaya Tepecik Eğitim ve Araştırma Hastanesi ve Celal Bayar Üniversitesi Çocuk Gastroenteroloji kliniklerinde Çölyak Hastalığı tanısıyla en az 6 aydır takip edilen 12-18 yaş arası toplam 35 adölesan hasta alındı. Çalışmamız vaka control çalışması olarak planlandı. Hastaların yaşı, cinsiyeti, tanı semptomları, sosyoekonomik durumları, Marsh evreleri kaydedildi. Poliklinikte boy ve kilo ölçümleri yapılıp, çölyak seroloji testi alındı. Hastanemiz pediatri polikliniklerine başvuran ve bilinen kronik hastalığı olmayan 47 olgu da kontrol olarak alındı. Hastalara çocuk psikiyatri hekimi tarafından Beck depresyon ölçeği, güçler güçlükler anketi, aile değerlendirme ölçeği yapıldı.

Bulgular Çalışma ve kontrol grupları beck depresyon ölçeği sonuçlarına göre karşılaştırıldığında, çölyak hastalığı olanlarda sağlıklı kontrol grubuna göre istatistiksel olarak anlamlı derecede yüksek puanlar elde edildi. Çölyak tanısı alan ergenlerin, çalışma ve kontrol gruplarının güçler ve güçlükler soru formları ile karşılaştırıldığı durumlarda, duygusal ve sosyal alanlarda daha fazla sıkıntı yaşadıkları saptandı.

Sonuç Çölyak Hastalığı tanısı olan çocuklarda, psikiyatrik sorunlar ve depresyon sağlıklı çocuklara göre genellikle daha sık görülür ve yaşam kalitesinde bozulmaya neden olabilir. Bu nedenle, çölyak tedavisinde psikososyal destek önemli olabilir

Anahtar Kelimeler Adölesan; Çölyak Hastalığı; Depresyon

Introduction

Celiac disease is a small intestine disease that can occur in every genetically predisposed person regardless of age.[1,2] It is prevalent 1 in every 100 people. It appears when gluten, a herbal protein in wheat, barley, rye and oat damage small intestines.[3,4] More than a number of genes are responsible for this disease. The most important predisposition genes are HLA-DQ2 and HLA-DQ8 that are among the genes that determine the type of tissues in persons. 95%-99% of persons with celiac disease have this tissue type. Diarrhea, abdominal pain and bloating are the classic symptom of celiac. Patients with celiac might not have any diarrhea but can have complaints about other organs. Endoscopy and histopathological assessment of biopsies is necessary for diagnosis. The only treatment for celiac disease is diet. Patients with celiac should have a lifelong gluten free diet.5,6 Patients suffer from adhering to this type of diet particularly during adolescence and psychiatric symptoms might be seen as well. Celiac disease might appear with psychiatric symptoms such as depression, anxiety and psychosis just as psychiatric diseases such as depression and anxiety could be seen during the course of treatment. When there is a sick child, parents take the emotional weight of the diagnosis and diet training and parenting support is an important factor for the patient's health.[7] Especially in adolescence period, cooperation with families is crucial.8 Family support has an important role in the adherence to treatment of a child with a chronic disease, and this role is more pronounced in diseases such as CD with specific dietary therapy. The aim of this study is to compare depression and psychiatric problems and family functioning through controls in patients who are followed because of their diagnosis of celiac disease and to analyze the relation between these data and adherence to celiac diet.

Material and Method

A total of 35 adolescents aged 12-18 years with a diagnosis of celiac disease were included in the study at Tepecik education and research hospital and Celal Bayar University Pediatric Gastroenterology Clinics for at least 6 months. Age, gender, symptoms used for diagnosis, socioeconomic status, celiac diet compliance and Marsh stages were recorded. The height and weight of the patients were measured and the celiac serology was evaluated at the time of diagnosis and at the 6th month follow-up. Our study was planned as case control study. Fourty seven children who applied to different outpatient clinics of the same hospitals, had no psychiatric disorder, chronic disease, allergies, immunological diseases and agreed to participate in the study and were similar to case group in terms of age and gender were included to study as control group. Beck depression inventory, strength and difficulties questionnaire and family assessment device were used by a child psychiatrist.

Beck Depression Inventory (BDI): The BDI was developed by Beck and conducted the Turkish forms by Hisli. [9,10] The BDI has 21 items for evaluating depression symptoms in last two weeks, each item can be scored in a scale of 0-3 (total score:0-63). The cut point of BDI is suggested as 17 for Turkish sample. [10]

The Strengths and Difficulties Questionnaire (SDQ): The Strengths and Difficulties Questionnaire (SDQ) is a 25-item behavioral screening questionnaire that measures parents' perceptions of pro-social and difficult behaviors in children aged 3-16 years. 11 In this scale; (1) emotional problems, (2) peer problems, (3) behavioral problems, (4) attention deficit and hyperactivity, and (5) social behaviors are evaluated with 25 items. Each subscale score is examined within itself and

total of first four subscales gives "total difficulty score". The reliability and validity of the Turkish version of SDQ has previously been shown by Guvenir et al, its Cronbach's alpha was 0.73. [12]

The McMaster Family Assessment Device (FAD): FAD is a 60- item family functioning screening measurement which was developed by Epstein et al. [13] Problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functions are seven subscales of FAD whose score rrange between 1.00 (healthy) and 4.00 (non-healthy). Scores above 2.00 are generally accepted as a non-healthy tendency in family functioning. The reliability and validity of the Turkish version of FAD has previously been shown by Bulut et al. [14]

Posterior power analysis was performed with PASS-11 package program. For all variables, mean, standard deviation and sample size values were calculated according to the groups. When the Type I error was taken as 0.05, Type II error was 0.20, the power of the study was found to be 100%. Informed consent was taken from the family. The study was made in accordance with the Helsinki Declaration. Hospital ethics committee approved the study.

Statistical Method

SPSS 15 and Med –Calc 13.1 were used for data analysis in the study. While parametric t test was used for comparison between study and control groups, Mann – Whitney test was preferred for comparing questionnaire results in patients who stich to their diet and who don't.

Results

Twenty three (65.7%) of them were girls and 12 (34.3%) of the participants were boys and mean age was 15.3±2.01. At the time of admission, mean weight SDS: 0.35 ± 1.57, mean height SDS: 0.23 ± 1.72. 54%. The most frequent admission symptoms of the 47 patients at the time of the diagnosis were 42.9% abdominal pain, 14.3 diarrhea, 14.3% pallor and 11.4% growth retardation. 35 patients in the study were diagnosed with Marsh 3, while 4 with Marsh 2 celiac disease. While income in the family of 3 patients was equal, it was lower than the income expense in 40%. The socio-economic level in the control group was similar to the study group. As for the control group, average age was 15.9±1.36. Fifteen patients were in full compliance with their diet. When study and control groups were compared through beck depression inventory, those with celiac disease had statistically significantly higher scores than healthy control group. It was found that adolescents diagnosed with celiac suffer from more difficulties in emotional and social areas when study and control groups were compared through strengths and difficulties questionnaire. Beck depression inventory, subscale score and p values in strengths and difficulties questionnaire are shown in Table I. Families of children in celiac group scored significantly high in communication, emotional and general functioning subscales of family assessment device. Statistically significant differences were not seen when those who adhere to their diet and who don't among patients diagnosed with celiac were compared in terms of depression, family functioning and subscales of strengths and difficulties questionnaire. The study found out that adolescents diagnosed with celiac had higher depression levels than healthy control group; adolescents diagnosed with celiac faced more difficulties in social and emotional areas; families of adolescents diagnosed with celiac had more difficulties in communication and being emotionally accessible (Table II). No difference was observed in regards to depression levels and psychiatric symptoms between those who adhere to their diet and who don't among adolescents diagnosed with celiac. Similarly, there was

no difference in terms of family functionality between those who follow their diet and who don't. There was no significant relationship between Marsh stages and serology results, socioeconomic level and BDI, SDQ and FAD results.

Table I: Assessment of Beck Depression Scale and Strengths and Difficulties Survey Results in Patients and Healthy Controls

Scales	Patient	Control	p
Beck Depression Scale	11.28± 9.73	2.06± 1.91	<0.001
Strengths and Difficulties Questionnaire			
Emotional	2.07± 0.44	1.67±0.48	0.013
Behavioral	2.97 ± 2.36	3.28± 1.95	0.519
Attention deficit/hyperactivity	2.97 ± 2.36	3.89±1.96	0.366
Communication with peers	3.11± 1.71	2.58± 1.61	0.160
Social communications	6.73 ±2.44	7.97± 1.79	0.14

Table II: Assessment of Family Assessment Device Outcomes in Patients and Healthy Controls

Family Assessment Device	Patient	Control	p
Problem solving	2.05± 0.60	1.90± 0.40	0.185
Communication	2.15 ±0.49	1.83± 0.51	0.006
Roles	2.15 ±0.49	1.85± 0.61	0.298
Emotional reciprocity	2.07± 0.44	1.85± 0.61	<0.001
Attention	1.85 ± 0.52	1.78 ±0.50	0.553
Behavioral control	1.76± 0.58	1.86± 0.43	0.357
General functions	2.08± 0.46	1.76± 0.63	0.015

Discussion

In current study it was found that adolescents diagnosed with celiac diseas, are more depressive and anxious than healthy controls additionally they had more difficulties in emotional and social areas. CD is characterized by intra and extra intestinal symptoms. Weight loss, diarrhea, anemia, fatigue and growth retardation are commonly seen in children diagnosed with CD.[15] In our study it was found that depression levels were higher in adolescents diagnosed with celiac compared to healthy control group, which was in line with the literature. In a study of 519 patients with a biopsy-diagnosed CD, depressive symptoms were common and were seen in 46% of respondents and in those without depressive symptoms, the relationship between symptoms and adherence to the diet was moderate, but stronger than those with depression. In our study too, there was no statistically significant difference in terms of depression between those who adherence the diet and those who did not.[16] Depression, dysthymic disorders and adjustment disorders are reported more frequently in children and adolescents diagnosed with CD compared to healthy control groups.[13] Hallert et al are among the firsts to define this link.[17] Though a high number of papers focus on the reasons of this link and the impact of GFD on depression, this link between these two clinical conditions is still defined in an insufficient manner. It has been found that depression in celiac is associated with the metabolism of biogenic amines in central nervous system. Central nervous system (CNS) neurons are synthesizers of monoamines (particularly tyrosine and tryptophan) that are precursor amino acids. Hernanz and Polanco have found a significantly lower ratio of plasma tryptophan to other large neutral amino acids.[15] This is explained with the relatively lower tryptophan levels with decreased serotonin levels and the fact that it leads to depression in patients with

celiac. Decreased food and tryptophan intake through gastrointestinal system leads to decreased levels of tryptophan in CNS in patients diagnosed with celiac.[15] Nachman et al have shown that depressive symptoms are quite common in untreated CD by using Beck Depression Inventory and after a year and four years long appropriate GFD, psychological symptoms improve significantly.[18] Moreover, Addolorato et al found out that psychological support for CD patients had a significant positive impact on both adherences to gluten free diet and psychological disorders.[17-19] Contrastly to Fera et al study it was found that adolescents with celiac disease are more depressive than controls regardless of GFD compliance.[20] Differently from other studies in the present study adolescents were included and this life period may affect the results of the present study.[21] Psychiatric symptoms experienced by adolescents diagnosed with celiac could be related to many of the above-mentioned reasons just as the social difficulties experienced by them could be correlated with their diet. Adolescents diagnosed with celiac spend time with their peers and the feeling that they cannot eat the same things might lead to difficulties in social life as well as emotional problems. Studies on psychiatric symptoms and celiac disease in the literature also show that patients diagnosed with celiac have more psychiatric symptoms than the control group.[22,23,24] A study on family functionality and parental stress points out that parents of children diagnosed with celiac suffer from high levels of stress and difficulties in family functionality.[7] Results are similar to our study. Difficulties in communication might be linked to the fact that communicating with an adolescent with a chronic disease who has to be on a continuous diet is hard or the parents' stress due to celiac or the feeling of guilt. Parent could be very stressful due to their children's chronic diseases and blame themselves because of this at the same time.[25,26] This could make it difficult for parents to build an emotional bond with the child and reach the child emotionally.

Especially, adolescents with celiac may also be evaluated in emotional, behavioral and social functioning. It is important to attribute psychological support for adolescents with celiac who explained any emotional or social problems. In current study adolescents who explained emotional or behavioral difficulties have been taken clinical follow up in child psychiatry department

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