The Association of Binge Eating Disorder with Glycemic Control in Patients with Type 2 Diabetes

Tip 2 Diyabet Hastalarında Tıkınırcasına Yeme Bozukluğu ve Glisemik Kontrol Arasındaki İlişki

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Abstract

Objective: Our aim was to assess the prevalence of binge eating disorder (BED) in individuals with type 2 diabetes and to investigate whether a comorbidity with BED would affect glycemic control in these patients.

Materials and Methods: Eighty-two type 2 diabetic patients were enrolled. The participants were assessed for eating disorders by a psychiatrist. Blood samples were drawn and HbA1c and other biochemical parameters were measured.

Results: Of the 82 subjects, 27 (34.1%) met the criteria for BED. No other types of eating disorders were detected. HbA1c was significantly higher in individuals with BED ($p<0.05$).

Conclusion: Our findings reveal that BED is highly prevalent among type 2 diabetic patients and it impairs glycemic control. Thus, patients with type 2 diabetes should be assessed carefully for eating disorders. *Turk Jem 2011; 15: 26-7*

Key words: Binge eating, diabetes mellitus, eating disorder, glycemic control

Özet

Amaç: Amacımız tip 2 diyabetli bireylerde tıkınırcasına yeme bozukluğunun (TYB) yaygınlığını değerlendirmek ve bu hastalarda TYB birlikteliğinin glisemik kontrolü etkileyip etkilemediğini araştırmaktır.

Gereç ve yöntemler: Toplam 82 tip 2 diyabet hastası çalışmaya dahil edildi. Katılımcılar bir psikiyatrist tarafından tıkınırcasına yeme bozukluğu açısından değerlendirildi. Kan örnekleri alınarak HbA1c ve diğer biyokimyasal parametreler ölçüldü.

Bulgular: Seksen iki olgunun 27'si (%34.1) TYB kriterlerini karşılıyordu. Hastalarda başka türlü bir yeme bozukluğu tespit edilmedi TYB'si olan bireylerin HbA1c düzeyleri anlamlı olarak daha yüksek bulundu ($p<0.05$).

Sonuç: Bulgularımıza göre TYB tip 2 diyabet hastaları arasında oldukça yaygındır ve glisemik kontrolü bozmaktadır. Bu nedenle tip 2 diyabet hastalarının yeme bozuklukları açısından dikkatle değerlendirilmeleri önemlidir. *Türk Jem 2011; 15: 26-7*

Anahtar kelimeler: Tıkınırcasına yeme, diabetes mellitus, yeme bozukluğu, glisemik kontrol

Introduction

Binge eating disorder (BED) is a newly recognized diagnostic entity characterized by recurrent binge-eating episodes without inappropriate compensatory behaviors for weight control, as seen in bulimia nervosa. BED is an example of eating disorders not otherwise specified and was included as a provisional diagnosis in the DSM-IV Appendix B (1). The prevalence of BED in clinical samples of individuals attending with type 2 diabetes (T2D) varies widely, from 1.4% to 25.6% (2-8). Little is known about the effect of BED on glycemic control in patients with T2D.

Our aim was to assess the prevalence of BED among individuals with T2D and to investigate whether a comorbidity with BED would affect glycemic control in these individuals.

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Materials and Methods

This was a cross-sectional study involving diabetic patients who came to the endocrinology clinic of Duzce University Hospital. Eighty-two obese T2D patients older than 18 years who were able to complete laboratory tests and psychiatric examination were included. Essentially, all consecutive T2D patients presenting for routine care at the outpatient endocrinology clinic of Duzce University Medical School Hospital were given the opportunity to enter the study, if they qualified. Informed consent was obtained from the participants. The study was conducted in accordance with the Declaration of Helsinki.

The patients were referred for psychiatric assessment. Eating disorders were diagnosed using the Structured Clinical Interview for DSM-IV, patient edition (SCID-P) (9), which was administered by a trained psychiatrist.

Blood samples were drawn after a fasting period of 12 h. The levels of fasting plasma glucose (FPG), HbA1c, triglycerides (TG), total cholesterol (T-Cho), low-density lipoprotein-cholesterol (LDL-C), and high-density lipoprotein-cholesterol (HDL-C) were measured. The participants' height and body weight were determined to calculate their body mass index (BMI). BMI was computed as weight divided by height squared (kg/m^2).

Statistical analysis was done by SSPS statistical software (SPSS for Windows 15.0, Inc., Chicago, IL, USA). Data were tested for normal distribution using the Kolmogorov–Smirnov test. Age, BMI, and laboratory parameters of diabetic patients with and without binge eating disorder were compared by unpaired t-test. Data are expressed as mean±standard deviation. Statistical significance was defined as $p<0.05$.

Results

Our study sample consisted mostly of women (65.8%). Mean age was 49.8±10.2 years, and the mean duration of diabetes was 9.4±4.3 years. Mean BMI was 30.3±5.5 kg/m^2.

Of the 82 subjects, 27 (34.1%) met the criteria for BED. No other types of eating disorders were detected. Eighteen (33.3%) of females and ten (35.7%) of males were diagnosed as BED and there was no significant difference between the genders (p=0.829).

HbA1c was found to be significantly higher in individuals with BED ($p<0.05$). There was no any statistically significant difference between binge eating and non-binge eating groups in terms of age, BMI, and other laboratory findings (Table 1).

Table 1. Characteristics of the sample studied

	Patients with BED (n=28)	Patients without BED (n=54)	p-value
Age	48.5±8.4	50.4±11.1	0.421
BMI (kg/m2)	30.6±5.5	30.1±5.6	0.621
FPG (mg/dL)	187.1±69.1	162.2±60.4	0.096
HbA1c (%)	7.11±1.65	6.32±1.53	0.040
TG (mg/dL)	198.6±126.1	199.2±161.1	0.985
HDL-C (mg/dL)	44.9±10.3	43.7±11.8	0.661
LDL-C (mg/dL)	103.4±36.0	108.3±28.5	0.511
T-Cho (mg/dL)	187.5±54.4	191.1±39.8	0.711

(BED: Binge eating disorder; BMI: Body mass index; FPG: Fasting plasma glucose; TG: Triglycerides; HDL-C: High-density lipoprotein-cholesterol; LDL-C: Low-density lipoprotein-cholesterol; T-Cho: Total cholesterol)

Discussion

In the present study, approximately one third of the subjects with T2D met the criteria for BED. BED was found to be associated with poor glycemic control.

The prevalence of BED is reported to be elevated in overweight patients with T2D (3,6). Thus, the high prevalence of BED in the present study may be explained by the characteristics of our study population which consisted mostly of obese patients (mean BMI: 30.3±5.5 kgm2).

Our findings are consistent with the findings of Meneghini et al. (3) revealing that HbA1c levels are increased in T2D patients with co-existing BED. Dramatic alterations in food consumption seen in BED may alter glucose control in individuals with T2D (6).

Diversities in the assessment methods may affect the outcomes of trials investigating the prevalence of BED in patients with T2D. It appears that studies using questionnaires (2,3,5) tend to reveal lower rates than the studies using structured interview (4,6-8), as our study. Thus, using questionnaires may contribute to under-diagnosis of BED in such patients.

The strength of this study is the use of a structured psychiatric interview to establish the diagnosis of BED. A limitation is the absence of control group consisted of healthy individuals; without such a group, it remains unclear whether the rates of BED are similar in healthy population.

According to our findings, BED is a highly prevalent condition among patients with T2D. BED was found to impair glycemic control. Thus, patients with T2D should be assessed carefully for eating disorders. Referral to mental health or specialized eating disorders professionals for individuals with BED may be warranted if patients are distressed about these conditions and if the conditions are affecting their diabetes control. Future studies should evaluate whether the treatment of BED in patients with T2D would positively affect the glycemic control in these subjects.

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