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Original Article

The Relationship Of Depression-Anxiety Inspection And Hypertension In Newly Diagnosed Young Hypertensive Patients

Yeni Tanılı, Genç Hipertansif Hastalarda Depresyon- Anksiyete Yatkınlığının Hipertansiyonla İlişkisi

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ABSTRACT

Aim: Hypertension (HT) is a very important risk factor for cerebrovascular, renal and various vascular diseases, especially cardiovascular diseases. It is seen in almost 1/3 of the adult world population and its incidence is gradually increasing. 95% of HT is essential and various reasons are emphasized in the etiology. Conditions that cause psychological stress, especially depression; Although the relationship between them is not clear, it was seen as a risk factor for HT. Because they will live with HT for a long time, early diagnosis and treatment is important, especially in young patients. Predisposing factors should also be taken into account in treatment. Anxiety and depression, which are called increased sympathetic activity in young people, can be a trigger for HT. In this study, we wanted to investigate the susceptibility to depression-anxiety in newly diagnosed young hypertensive patients. According to the result, we thought that we could make new recommendations in the treatment of HT.

Materials and Methods: 175 patients under the age of 45 with newly diagnosed HT and 125 individuals under 45 without any health problems were included in the study. Those diagnosed with HT with secondary reasons and those with chronic diseases such as coronary artery disease (CAD), diabetes mellitus (DM), chronic renal failure (CRF), congestive heart failure (CHF) were excluded from the study. Testing was performed with the Hospital Depression Anxiety Scale (HDAS). In this test for both anxiety and depression; 0-7 points were considered normal, 8-10 points were considered borderline, and over 11 points were considered abnormal.

Results: When the results were evaluated, there was no difference between the groups in terms of age, gender, and routine biochemical tests. Both depression and anxiety scales were found to be significantly higher in the HT group. In young hypertensive patients, we have seen that HT and depression-anxiety frequently coexist.

Conclusion: In this case, we should definitely examine the psychological stress states of young patients we diagnosed with HT. It would be appropriate to refer patients who we think may have depression and anxiety for psychological support and treatment. When psychological problems are treated, HT may improve without the need for antihypertensive treatment. Thus, we can develop new approaches in HT treatment.

Keywords: Young people hypertension; depression; anxiety.

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ÖZ

Amaç: Hipertansiyon (HT) başta kardiyovasküler hastalıklar olmak üzere, serebrovasküler, renal ve çeşitli vasküler hastalıklar için çok önemli bir risk faktörüdür. Erişkin dünya nüfusunun neredeyse 1/3 nde görülmektedir ve insidansı giderek artmaktadır. HT nun %95 i esansiyeldir ve etiyolojide çok çeşitli nedenler üzerinde durulmaktadır. Depresyon başta olmak üzere psikolojik stres yapan durumlar; aralarındaki ilişki net olmamakla beraber HT için risk faktörü olarak görülmüştür.

Özellikle genç hastalarda; uzun süre HT ile beraber yaşayacakları için, erken tanı ve tedavi önemlidir. Tedavide predispozan faktörler de dikkate alınmalıdır. Gençlerde sempatik aktivite artışına denen olan anksiyete ve depresyon HT için bir tetikleyici olabilir. Bu çalışmada, yeni tanılı genç hipertansif hastalarda, depresyon- anksiyete yatkınlığını araştırmak istedik. Çıkacak sonuca göre HT tedavisinde yeni önerilerde bulunabileceğimizi düşündük.

Gereç ve Yöntemler: Çalışmaya yeni HT tanısı almış 45 yaş altı 175 hasta ile 45 yaş altı herhangi bir sağlık sorunu olmayan 125 kişi kontrol grubu olarak alındı. Sekonder nedenli HT tanısı olanlar ve koroner arter hastalığı (KAH), diabetes mellitus (DM),kronik renal yetmezlik (KRY), konjestif kalp yetmezliği (KKY) kronik hastalığı olanlar çalışmadan dışlandı. Herkese rutin laboratuvar testleri yapıldı. Hastane Depresyon Anksiyete Skalası (HDAS) ile test yapıldı. Bu testte hem anksiyete hem de depresyon için; 0-7 puan arası normal, 8-10 puan arası sınırda, 11 puanın üstü ise anormal olarak kabul edildi.

Bulgular: Sonuçlar değerlendirildiğinde , yaş, cinsiyet, rutin biyokimyasal testlerde , gruplar arasında fark yoktu. HT grubunda hem depresyon hem de anksiyete skalası anlamlı olarak yüksek bulundu. Genç hipertansif hastalarda HT ile depresyon- anksiyetenin sıklıkla birlikte olduğu görüldü.

Sonuç: Bu durumda, yen HT tanısı koyduğumuz genç hastaların psikolojik stres durumlarını mutlaka irdelememiz gerekir. Yüksek oranda depresyon ve anksiyete düşündüğümüz hastaları psikolojik destek ve tedavi için yönlendirmemiz uygun olur. Psikolojik sorunlar tedavi edilince belki de antihipertansif tedavi gerekmeden HT düzelebilir. Böylece HT tedavisinde yeni yaklaşımlar geliştirebiliriz.

Anahtar Kelimeler: Gençlerde hipertansiyon; depresyon; anksiyete

Introduction

Hypertension (HT) is a clinical condition characterized by persistently high blood pressure in the arteries with serious medical consequences in the long term. Although HT is an initially asymptomatic condition, when it becomes chronic it is an important risk factor for cardiovascular, cerebrovascular and renal diseases, so it is an important cause of mortality and morbidity in developed countries.[1] Recent estimates show that about 30% of the world's population has HT, and this is expected to increase by 7.2% by 2030. [2]Moreover, an appropriate BP control is achieved only by Less than a half of patients receiving treatment. [3,4] HT is classified on the basis of both its pathophysiology (primary and secondary HT) and on the resting BP values (elevated systolic, diastolic, and pulse pressure). It originates from a complicated interaction of genes and several environmental risk factors including aging, smoking, lack of exercise, overweight and obesity, elevated salt intake, stress, depression, and anxiety.[1]

While research shows that HT management is evolving; still there is no comprehensive understanding of the etiology. Although HT etiology has been studied in depth and widely for a long time, it is still fully is not understood because show the interaction of genetic and various environmental risk factors. Thus, demographic features, lifestyle and psychosocial variables are effective in the development of HT.[5] Right now, HT etiology only it cannot be explained by physiological, genetic and lifestyle factors. The role of psychosocial risk factors in HT has been explored by several authors, but their results are less clear and sometimes it is controversial.[6,7] Substantial amount of evidence supports the role of psychosocial factors (such as stress, anxiety) as primary risk factors for HTN. [8] As a result, national HTN guidelines recommend psychosocial intervention to prevent or delay the onset of HT.[9]

Anxiety and depressive are the most common are mental disorders with emotional, cognitive, and psychomotor symptoms that affect millions of people each year. Moreover, work-related stress, it has been considered an important risk factor for HT and cardiovascular diseases (CVDs).

Mental stress causing abnormal activation of the sympathetic nervous system (SNS)

It can trigger the hormonal cascade that interferes with BP (such as increased cortisol secretion from the adrenal gland). Also increased conditions such as coagulation and platelet activity also may cause the development of cerebrovascular events.[10,11] According to a comprehensive literature review, unemployment, extended working hours, job instability, low wages, workload, and sleep disturbances were linked to an increased risk of HT.[12] The results of many epidemiological studies to investigate the relationship between anxiety and HT are unclear. When meta-analyzes and prospective studies are examined, evidence obtained, shows the relationship between anxiety and HT risk. These results support the early detection and management of anxiety in hypertensive patients.[13] Depression is a significantand independent risk factor for HT especially in young people.[14,15] Depression can reduce heart rate variability, which indicates a greater chance of death as a result of CVDs. Again psychological state may worsen the inflammatory response or raises blood cortisol leves.[16]

Nonetheless athophysiological mechanisms underlying the relationship between psychosocial factors and high blood pressure it is ambiguous or even contradictory and needs further investigation, especially in young people. Young people and adolescents should be considered as a separate population with specific characteristics and research should be done in this direction.[17]

HT, which starts at an early age, is more risky because it will initiate target organ damage earlier and should be treated in a timely manner. First of all, we should examine the reasons that trigger HT. Since psychosocial causes such as work stress and anxiety are more common in young people, these situations should be considered in young hypertensive cases.

In our study, we wanted to investigate the prevalence of depression and anxiety in newly diagnosed young hypertensive patients. In cases of HT triggered by psychological factors, treatment for these factors can be given before starting conventional antihypertensive treatment. A new path can be followed in young HT management.

Materials and Methods

We conducted this study between January 2020 and June 2020, after obtaining their approval, among the patients who applied to the cardiology 1 outpatient clinic of the Bursa High Specialty Training Research Hospital. The study was approved by the local ethics committee and was conducted in accordance with the Helsinki declaration. Written informed consent was obtained from all patients.

R Routine examinations were performed on patients who presented to our outpatient clinic with various complaints suggesting HT. Those with blood pressure monitoring> 140/90 mmhg and ambulatory blood pressure values> 130/80 mmhg were diagnosed with HT. Secondary HT cases were not included in the study. Routine biochemical examinations were performed on healthy adults who were taken as the control group. Blood pressure measurements were confirmed to be normal.

The 'Hospital Anxiety Depression Scale' test was applied to both groups to measure the susceptibility to depression and anxiety. In the HADS test, there are 7 questions for anxiety and depression, and scoring is made according to the answers given to them. In this test, which evaluates depression and anxiety susceptibility, 0-7 points are considered normal, 8-10 point's borderline and 11-14 points abnormal.

Statistical analysis

The data were evaluated via SPSS 24.0 (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0 Armonk, NY: IBM Corp.). For discrete and continuous variables, descriptive statistics (mean, standard deviation) were given. In addition, the homogeneity of the variances, which is one of the prerequisites of parametric tests, was checked through Levene's test. The assumption of normality was tested via the Shapiro Wilk test. To compare the differences between the two groups, the Student's t test was used when the parametric test assumptions were fulfilled, and the Mann Whitney U test was used when they were not fulfilled. Chi-square test was used to determine the relationships between two categorical variables. A two-sided $p < 0.05$ was accepted as statistically significant.

Results

As the patient group, 175 people under the age of 45 who were newly diagnosed with HT were included in the study. As the control group, 125 healthy people under 45 years old were taken. There were 80 men and 95 women in the patient group and 56 men and 69 women in the control group. The mean age was 38,1 in the patient group and 38,4 in the control group.

When analyzed statistically, there was no significant difference between the two groups in terms of demographic characteristics such as age and gender. The hmg, glucose, creatine, cholesterol and triglycide values we looked at in routine blood tests were similar for the two groups. (Table 1)

When the HADS score was evaluated, both anxiety and depression scores were found to be significantly higher in the patient group. ($p < 0.001$) The mean HADS depression score

was 10,7 points in the patient group, 5,5 points in the control group, and the anxiety score was similarly a10,2 and 5,6 points, respectively. (Table 1) The distribution of depression and anxiety scores in both groups was shown. (Figures 1 and 2 respectively)

Table 1. Clinical characteristics of study subjects

	Patient group (n:175)	Control group (n:125)	P value
Age (year)	38,15±4,62	38,44±4,63	0,537
Gender (male)	80(%45)	58(%46)	0,866
Hemoglobin (mg/dl)	14,75± 1,65	14,51±1,93	0,923
Glucose (mg/dl)	99±11	97±14	0,753
Kreatinine (mg/dl)	0,94±0,66	0,88±0,94	0,807
LDL (mg/dl)	132±25	126±20	0,622
TG (mg/dl)	211±70	205±82	0,789
Uric acide(mg/dl)	6,00±1	5,70±1	0,977
HADSd	10,86±10	5,55±2,37	0,000
HADSa	10,26±2,44	5,63±36	0,000

Data are presented as mean ± standard deviation for continuous variables and as frequency (percentage) for categorical variables. LDL: Low-density lipoprotein TG: Trigliserid HADSd: Hospital axiete-depression scale (for depression) HADSa: Hospital axiete-depression skale (for axiete)

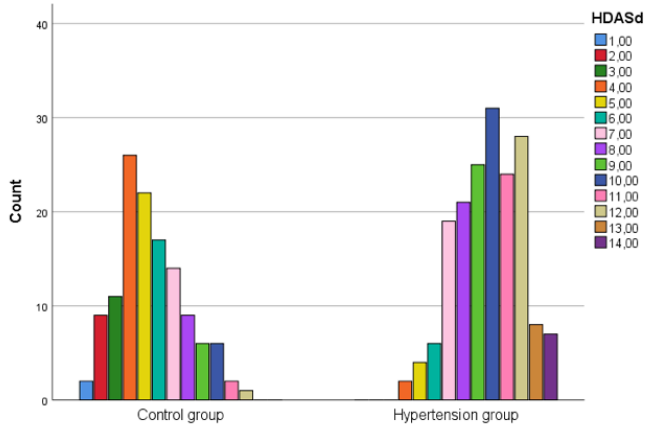

Figure 1: Distribution of depression scores of hypertension group and control group.

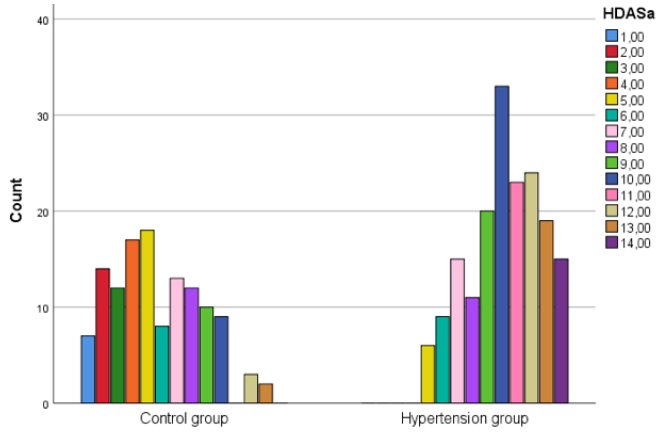

Figure 2: Distribution of anxiete scores of hypertension group and control group.

The significantly higher depression and anxiety scale in HT patients indicates that psychosocial conditions may be the trigger for the onset of HT in these patients.

Discussion

Psychological factors have been emphasized in studies conducted for a long time to enlighten HT etiology. Although some of these studies have controversial and contradictory results, many have shown the relationship between HT and psychological factors.

Cuffee et al. Reviewed 21 articles that investigated the relationship between HT and psychosocial factors published between 2010 and 2014, and in their metaalysis. He collected psychosocial factors in 6 groups: 1) occupational stress, 2) mental health, 3) personality, 4) accommodation instability, 5) social support / isolation, and 6) sleep quality.

Met analysis results that, in previous literature in accordance with [18,19] Occupational stress factors such as unemployment, extended working hours, job stability / control, low wages, downsizing, and job tension would have contributed to the development of HTN. Low social integration, loneliness and housing instability was also significantly associated with the HTN event. Recent addition to the psychosocial literature was the examination of poor sleep quality and other sleep-related behaviors. Specifically, we found that sleep duration, sleep architecture, and chronic insomnia were linked to an increased risk of HTN. Studies examining personality-related factors and mental health (depression, anxiety) had mixed findings.

In another meta-analysis conducted in 2017 by Mei-Yan Liu et al., 11 studies involving 5696 participants were analyzed. The data showed that psychosocial stress is associated with an increased risk of HT, and that hypertensive patients have a higher incidence of psychosocial stress than those who are normotensive. Chronic psychosocial stress may be a risk factor for HT. As a result, with a small number of case-control and cohort studies, they stated that it is difficult to perform metaanalysis due to variations in the definition of stressors and response to stress.

D Collazos-Perdomo et al in a study published in 2020 investigated the relationship between HT and depression in the Columbia population. Depression was more frequent in patients with HT and similarly, the rate of HT was higher in those with depression. In other words, there is a two-way relationship between HT and depression.

In particular,chronic exposure to stressors would trigger a

vicious cycle consisting in changes of emotional setpoints. These changes cause a permanent increase in blood pressure values over time The perception of dissatisfaction has long been known. At work, stress factors that are directly rela. [20,21] ted to mental and physical health, especially blood pressure, must be taken into account.[22,23] Recently,some authors evaluated the effect of repeated job strain and effort–reward imbalance (ERİ) reporting that men chronicall exposed to an active job, compared with not exposed men, presented a cumulative incidence of HT over 5 years.[24]

A recent reviews of literature underlined how unemployment, extended work hours, job instability , low wages, jobstrain, and sleep disorders were linked to an increased risk of HT. However, the relationship of psychological problems such as depression-anxiety and personality types with HT was not clear.[1]

We observed that the psychological stress factors mentioned above (work-related causes such as job stress, unemployment, long working hours, job dissatisfaction, low wages, mobbing and related sleep disorders, anxiety, depression) are common in the young population.

Therefore, we tried to elucidate the etiology by investigating the psychological causes in young HT patients with newly diagnosed HT. We found that axiete and depression in young hypertensive patients were significantly higher than normotensive healthy subjects. This showed that, regardless of the reason, psychological stress contributes to the etiology of HT.

Conclusion

Depression and anxiety rates were found to be significantly higher in newly diagnosed young patients with HT. Therefore, when evaluating these patients, we should not ignore their psychological conditions. We should direct those with psychological complaints and symptoms to the necessary units and ensure that they receive treatment. Perhaps this way, many patients will not need conventional antihypertensive therapy. Whether the treatment for only psychological stress causes will be sufficient or not requires larger-scale studies. However, these studies are difficult to do due to ethical issues.

Declaration of conflict of interest

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