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EDITORIAL

The second issue of 2018

Thank you very much to the referees, authors and the editorial board members from Turkey and different countries in our publishing family.

Again, in this issue, you can also access original articles on topics ranging from psychiatry, nursing, dermatology, cardiology and internal medicine sciences.

See you soon…

PhD. Asst. Prof. Ülkü KARAMAN

Editor

Middle Black Sea Journal of Health Science August 2018; 4(2):1-6

RESEARCH ARTICLE

Investigation of Serum Brain Derived Neurotrophic Factor Levels in Children and Adolescents Aged 12 to 18 Years with Depressive Disorder

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Abstract

Objective: It has been suggested that the neuroplastic processis associated with the pathogenesis of psychiatric disorders including depressive disorder. It is thought that brain derived neurotrophic factor (BDNF) is an important factor in neuroplasticity in depressive disorder. BDNF is play an important role in survival of neurons, synaptic plasticity, formation of synaptic connections and neurodevelopment. Insulin like growth factor-1 (IGF-1) is found in various areas of the brain. IGF-1 is involved in brain growth, development and mylination, also in brain plasticity. IGF-1 affect the genesis of neurons, astrocytes, oligodendrocytes and endothelial cells. In this study we aimed to evaluate serum levels of BDNF and IGF-1, which is also accepted as a neurotrophic factor, in children and adolescents between 12-18 years with depressive disorder.

Methods: The patient group was composed of 35 subjects (26 females; 9 male), while the control group was composed of 22 subjects (14 females; 8 male). Sociodemographic form, Kovac's depression scale, and state-trait anxiety inventory were applied to all subjects. Serum BDNF and IGF-1 levels were measured with ELISA. Moreover complete blood count, biochemical tests, thyroid and sex hormones were tested.

Results: There was no significant difference between the patient group and the control group in terms of the BDNF and IGF-1 levels (respectively p values 0.547 and 0.968). When the groups divided into female and male subgroups, statistically significant differences were not found again. Moreover age, gender, menstrual states, suicide attempts, suicide thoughts, smoking and Body Mass Index had no effects on the BDNF. There was also no effects on IGF-1 levels, except age. There was negative correlation between age and IGF-1 in all subjects.

Conclusion: The results of this study do not support the association of depressive disorder with changes in serum BDNF and IGF-1 levels in children and adolescents. But larger prospective studies are needed to show better the effects of these factors.

Key words: Brain derived neurotrophic factor, insulin-like growth factor-1, depression, child and adolescent, neurotrophic factor

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Introduction

Depressive disorder (DD) is a common disorder with a tendency to become chronic and recurring that causes physical and psychosocial disability (Kaufman et al., 2006). Depression in adolescents causes increased mortality due to suicidal and parasuicidal behavior in addition to drug abuse, negative life events, and weak academic and psychosocial functioning (Park and Googyer, 2000). The definite rates of DD among children and adolescents are not known. Epidemiological studies report the prevalence of depression in children is 2-4% and in adolescents is 5-8% (Birmaher and Brent, 1998; Park and Googyer 2000; Kaufman et al., 2006). The gene-environment interaction is found in the etiology of DD; however, the characteristics of this interaction and the degree of effect of the environment is not known (Herken, 2002).

Recent studies have shown that some structural changes occur in regions of the brain related to mood in patients with depression with a reduction in glial cells and neurons. The brain, contrary to what was previously believed, has high plasticity capacity with processes like growth and branching of dendrites and restructuring of synapses understood to continue after the childhood period. Currently, as a result of this data, the opinion that disrupted or insufficient neuroplasticity plays a role in the formation of depression and that depression may be caused by insufficient neuroplasticity of brain structures effective on mood formation has gained importance (Uzbay, 2005).

Changes in the expression of brain-derived neurotrophic factor (BDNF), with duties in neuroplasticity processes and accepted as a neurotrophic factor, have been reported to cause many psychiatric disorders including depression and schizophrenia (Tapia-Arancibia et al., 2004). Low BDNF levels play a role in the pathophysiology of DD and associated disorders and many studies have shown the amount of BDNF increases with antidepressant use (Aydemir et al., 2005). BDNF polymorphism forms a potential risk for depression within the framework of gene-gene-environment interaction in children (Kalueff et al., 2007). It is known BDNF can pass the blood-brain barrier (Hashimoto et al., 2004). The basic source of BDNF in serum is the brain (Katoh-Semba et al., 2007).

Insulin-like growth factor (IGF-1) is a polypeptide hormone with increasing effect on growth in the central nervous system. Basically IGF-1 is synthesized in the liver and though it passes into circulation from there, IGF-1 is also produced by the central nervous system including the hippocampus (McCusker et al., 2006). Peripherally-synthesized IGF-1 passes the blood-brain barrier and thus, IGF-1 in both circulation and in the central nervous system affects neuronal functions in the hippocampus (Schimidt and Duman, 2007). Additionally, it was identified that IGF-1 expression increased in the hippocampus with chronic antidepressant treatment (Hoshaw et al., 2005). In animal studies, the antidepressant effect of IGF-1 was shown. Finally, IGF-1 may play a role in pathophysiology and treatment of DD like neurotrophic factors like BDNF. With these characteristics, IGF-1 may be assessed as a neurotrophin. In the hippocampus, IGF-1 works synergistically with BDNF and they each increase the effects of the other (McCusker et al., 2006).

In this study, we identified and compared the BDNF and IGF-1 levels in serum of children and adolescents aged from 12-18 years with and without DD to research their possible roles in DD etiology.

Methods

Subjects

Subjects were selected from individuals monitored as inpatients or attending as outpatients at Uludağ University Faculty of Medicine Pediatric Mental Health and Diseases Clinic. These included a 35-subject (26 females, 9 male) patient group with "major depressive disorder" diagnosis (DSM-IV/ICD-10) and a 22-subject (14 females, 8 male) control group with no psychiatric or other medical disease diagnosis. As the DSM V had not been released at the time of the study, DSM-IV was used for valid criteria. When creating the groups, those with any psychiatric diagnosis accompanying DD apart from generalized anxiety disorder, those with any active chronic systemic or neurological disease, those taking any psychiatric medication in the previous 3 weeks and those with drug and alcohol abuse or addiction were excluded from the study. Subjects who agreed to participate in the study were informed, along with their parents, about the research and informed and written consent was obtained. The study was permitted by Uludağ University Faculty of Medicine ethics committee.

Forms and Scales administered

Sociodemographic Information

The sociodemographic information form developed in the study was used to collect

demographic information about the volunteers along with points obtained from the scales; height, weight and body mass index; gender, number of siblings, graduation degree, who they live with, whether they live with their original family; maternal and paternal educational levels, monthly income of the family; whether they smoke, if so how many per day; whether they have attempted suicide to date; and for female subjects whether they are menstruating, if so the age of initial menstruation and the current day of their cycle.

Children's Depression Inventory (CDI) (App 4)

This scale is the most commonly used among self-assessment scales for childhood depression and psychometric properties have been most researched. It was prepared by M. Kovacs based on the opinion that "childhood depression exists, can be observed and measured and has similar characteristics to that in adults". The validity and reliability studies in Turkey were completed by Oy in 1991 on 6-17 year olds (Oy, 1991). The children's depression inventory may be applied to children aged 6 to 17 years. It takes about 30 minutes to fill in the inventory which comprises a total of 27 items. Cut-off points were determined as 19.

State-Trait Anxiety Inventory (STAI-I, STAI-II)

This was developed in 1970 by C.D. Spielberger. The validity and reliability study for Turkey was completed by Öner and Le Compte in 1985 (Öner 1985). There are two separate subscales containing 20 items each included within the scale. The state anxiety inventory determines how individuals feel at a certain moment and under certain conditions. Answers are chosen according to the degree of agreement with the feeling, thought or behavior stated in the idem as "not at all", "somewhat", "moderately so" and "very much so". The trait anxiety inventory determines how the individual feels independent of the situation and conditions they find themselves in. Answers are chosen according to degree of frequency as "almost never", "sometimes", "often" and "almost always". The total points obtained from both scales varied from 20 to 80 points. Higher points indicate higher levels of anxiety. The cut-off point for both subscales is 45.

Collection and Storage of Samples

Blood samples were taken from all cases after overnight fasting. Blood taken for routine tests was studied the same day. Blood samples were taken in a dry tube (Vacutainer, England) with the aid of a 0.18 x 40 mm needle from the veins in the forearm antecubital region. Samples were centrifuged for 5 minutes at 3000 rpm and the serum was aspirated. Serum separated in the study was stored at -80 C until analysis.

BDNF and IGF-1 Measurement

Serum BDNF levels were measured using a solid-phase sandwich two-way enzyme-linked immunoassay (ELISA) BDNF (human) ELISA kit (Phoenix Pharmaceuticals Inc. California, USA). Serum IGF-1 levels were measured using a chemiluminescence immunoassay method with its own kit on an Immulite 2000 device (Siemens, UK). The tests were used in accordance with instructions.

Statistical Analysis

In our study, SPSS for Windows 16.0 (Chicago, IL) program was used for analyses. Variables with continuous values are given as mean, standard deviation, maximum and minimum values. Variables with continuous values were tested for normality with the Shapiro-Wilk test. Comparison of two groups of independent variables with normal distribution used the independent samples t test. Two groups of independent variables without normal distribution (nonparametric) were compared with the Mann-Whitney U test. Comparison of groups with variables with categoric values used the chi-square test. The Spearman test was applied for correlation calculations of nonparametric variables and categoric variables. The Pearson test was applied to variables showing normal distribution. In our study the level of significance was accepted as $p<0.05$. Taking note of the rapid development of children and adolescents, age was calculated in months and shown as years and months.

Results

There were no statistically significant differences identified between the groups in terms of gender and body mass index values (p values 0.392 and 0.676, respectively). There was a statistically significant difference identified between the patient and control groups in terms of age ($p=0.007$); accordingly, the mean age of the patient group was higher compared to the control group (Table 1). The values obtained by the groups for the Kovacs depression inventory, state anxiety (STAI-1) and trait anxiety (STAI-2) are shown in Table 1. There were significant differences between the groups for these three parameters

(p<0.001), with the patient group identified to have higher mean depression, state and trait anxiety points. The BDNF and IGF-1 values for the groups are shown in Table 1. There was no significance found between the two groups (p values 0.547, 0.646 and 0.968, respectively). When the groups are divided into subgroups according to gender, comparison of BDNF and IGF-1 values did not obtain significant results. Correlation analyses did not find any significant correlation. There was only a negative correlation between age and IGF-1 levels for all subjects (p=0.028; r:-0.291).

Table 1. Characteristics of the groups and measured BDNF and IGF-1 values

	Control group (n=35)	Patient group (n=22)	P values
Gender (Female/Male)	26/9	14/8	0.392[a]
Age (mean-months (year;months))	179.8 months (14 years 11.8 months)	189.4 months (15 years 3 months)	0.007[b]
BMI (mean±SD)	20.89±4.3	20.96±4.06	0.676[b]
KDI points (mean±SD)	7.86±3.71	27.94±5.65	<0.001[b]
STAI-1 points (mean±SD)	34.5±9.04	49.11±11.56	<0.001[b]
STAI-2 points (mean±SD)	40.68±8.59	52.38±12.58	<0.001[b]
BDNF levels (ng/ml) Median (Min-max)	2.45 (0.62-3.79)	2.39 (0.4-3.75)	0.547[c]
IGF-1 levels (ng/ml) Median (Min-max)	320.55 (164-479)	319.63 (115-502)	0.968[c]

Note: achi-square test; b Student t test; c Mann Whitney-U test

BMI: Body mass index; KDI: Kovac's Depression Inventory; STAI-1: State anxiety inventory; STAI-2: Trait anxiety inventory

Discussion

This study is the first to assess BDNF and IGF-1 in children and adolescents with DD. Accordingly there were no clear changes identified in the patient group in terms of BDNF and IGF-1 values. These results contradict many studies showing low BDNF values in adult DD (Aydemir et al., 2005; Aydemir et al., 2007; Lee et al., 2007). Additionally, there are studies showing BDNF levels do not change in DD (Başterzi et al. 2009). In terms of IGF-1, this contradicts one study showing increased IGF-1 levels in DD (Franz et al., 1999). Considering the roles of BDNF and IGF-1 in neuroplasticity processes, they may be considered to be included in DD pathogenesis (Uzbay 2005). After stress, it is proposed there are disruptions to the neuroplasticity processes in the brain, especially in the hippocampus (Duman et al. 2000; Duman 2002). BDNF in addition to affecting viability, development and differentiation of neurons, also affects learning and memory. In the adult brain, neurotrophic factors like BDNF have an increasing effect in viability of damaged neurons. During development, the survival of neurons is linked to the presence of targeted BDNF expression. In the absence of neurotrophic factors, neurons undergo programmed cell death; in other words, apoptosis (Wichers et al. 2008). In conclusion, when BDNF effects mentioned above are assessed in children and adolescents with DD, the lack of change in BDNF levels does not lead to the conclusion that BDNF does not have a role in DD pathogenesis. The results of the study should be confirmed with larger sample groups and considering other factors affecting BDNF.

In addition to its role in the CNS, IGF-1 plays a critical role in adult hippocampal neurogenesis. Systemic injection of IGF-1 increases neurogenesis in the hippocampus. Consistent with these results, blockage of peripheral IGF-1 reduces proliferation of neuronal progenitor cells in the hippocampus (Bhatia and Bhatia 2007). Generally, IGFs have properties like supporting capability for cellular proliferation, differentiation and metabolism/hypertrophy (nutrition transport, energy storage, gene transcription and protein synthesis) functions (O'Conner et al., 2008). Additionally, IGF-1 along with BDNF and serotonin regulate processes related to energy metabolism, stress response and aging in neurons (Mattson et al., 2004). A study of patients with depression (19 female patients and 16 healthy female controls aged 20-60 years) identified IGF-1 increased in DD (Duman et al., 2000). When all this data is assessed together, IGF-1 may have a role in DD pathogenesis. According to our study results, though there was no variation in IGF-1 levels which contradicts this data, there is a need for broad-scale studies about the possible role of IGF-1 in pediatric and adolescent DD pathogenesis together with assessment of other factors affecting IGF-1.

There are some limitations to this study. Firstly, increasing the sample number would ensure we reach more accurate conclusions. Also, in addition to peripheral assessment, it is necessary to perform measurements in cerebrospinal fluid to better reflect levels in brain tissue. The effects of other parameters

that affect peripheral blood levels of these two neurotrophic factors like age, weight, nutritional intake, and a variety of drug use should be considered. Additionally, the cross-sectional nature of the study provides limited information about the effect of neurotrophic factors. Longer follow-up studies may allow thepossibility of obtaining more accurate results in this regard. Additionally, there was a statistically significant difference between the two groups in terms of age. This situation limits interpretations that can be made about the correlation of BDNF and IGF-1 with DD and other parameters. For more accurate evaluation, it is necessary to compare groups with similar characteristics like age and gender.

Conclusion

The basic finding of this study is that there were no significant differences in mean IGF-1 and BDNF levels between depressive patients and a control group aged 12-18 years. The lack of association between DD and changes in BDNF and IGF-1 levels should be confirmed by advanced studies of this topic.

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RESEARCH ARTICLE

Relationship Between Perceived Social Support and Attitudes Towards Menopause among Women and Affecting Factors

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Abstract

Objective: The aim of the study was to investigate affecting factors on perceived social support and attitudes towards menopause and the relationship between perceived social support and attitudes towards menopause of Turkish women.

Methods: The study was planned as a descriptive and cross-sectional design. The data were collected with questionnaire form, Multidimensional Scale of Perceived Social Support and Attitudes towards Menopause Scale.

Results: A majority of women (66.7%) had a negative attitude towards menopause. Strong perceived social support positively affects women's attitudes towards menopause. Woman who have higher education level, being age 50 and under, working, being single, having normal BMI, and being in a nuclear family had more positive attitude towards menopause. Other factors were a husband who is a civil servant and with higher education, having a higher income perception and positive health perception, living in a province, physical exercise, being premenopausal, being informed about menopause. The perceived social support scale scores were higher than for other women in the following categories: age 50 and under, higher education level, working, higher income perception, single, living in a province, physical exercise, and positive health perception.

Conclusion: In conclusion, the majority of women had negative attitudes toward menopause and perceived social support during menopause was at low levels. The perceived social support and attitude towards menopause correlated. Informational programs need to be focused on developing positive attitudes in both women and men to help couples and strengthening women's social support and preparation during menopause.

Key words: Menopause attitude, perceived social support, menopause, affecting factors

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Introduction

Natural menopause is defined as the permanent cessation of menstruation due to loss of ovarian follicular activity and is recognized to have occured after 12 consecutive months of amenorrhea, for which there is no other obvious cause (International Menopause Society, 2016). The reproductive period before the perimenopause is referred to as premenopause. The menopausal process is affected by biological, psychological, and socio-cultural factors. It signifies the end of the reproductive period and transition to the post-reproductive period which

begins on average at ages 40-45 years and lasts until about 65 years of age (Taskin, 2015). During this time, women experience a number of changes and complaints which are due to declining levels of estrogen. Some of these changes and complaints include cycle disorders, hot flashes, night sweats, sleep disturbances and vaginal dryness (Tortumluoğlu, 2004).

Affected factors on the perception and attitudes towards menopause and menopausal symptoms are include ethnicity, traditions, society and the value given to the elderly. Furthermore, social roles, sexuality, life philosophy, cultural features (Tortumluoğlu, 2004), education level, and women's marital, menopausal, and job status also affect society's attitudes towards menopause (Jassim and Al-Shboul, 2008). Previous studies have shown that there are differences between cultures and within cultures regarding menopause perception and attitudes (Huffman, Myers, Tingle and Bond, 2005; Vural and Yangın, 2016;).

Studies have compared Eastern and Western cultures and have demonstrated that menopausal women living in Eastern cultures viewed menopause as a natural process, and they held more positive views than women living in the West (Koc and Saglam, 2008). A study on Iranian women found that women's menopausal attitudes in rural areas were more negative than women in urban areas (Khademi and Cooke, 2003). Another study in Nigeria found that perceptions and attitudes regarding menopause of women from four different ethnic groups differed (Adewuyi and Akinade, 2010). Studies on the attitudes of Turkish women have revealed that women had negative attitudes toward menopause (Tortumluoğlu and Erci, 2004; Erbil et al., 2012; Şentürk Erenel et al., 2015), yet other studies noted women's positive attitudes toward menopause (Coban et al., 2008; Akkuzu et al., 2009).

Social support is defined as the perception or experience that one is loved and cared for by others, esteemed and valued, and part of a social network of mutual assistance and obligations (Taylor, 2011). Social support may come from a partner, relatives, friends, coworkers, social and community ties, and even a devoted pet (Taylor, 2011). Social support can be formal, informal, social, professional, structured, or unstructured, and it may affect the general well-being of individuals living with chronic and life threatening health conditions (Yoo et al., 2010). Perceived social support is the individuals' understanding of love and the support that they receive from their family, friends, and relatives (Najafabadi et al., 2015). Spouses, friends and support groups are thought to be a positive influence during the menopause process (Taskin, 2015). Therefore, the social support factor is considered to exert a positive effect on women's menopause perceptions and attitudes. Sufficent and strong social support can help women address the grief of the losses experienced during the climacteric period (Zhang et al., 2016). A previous the study indicated significant and negatively relationship between perceived social support and depression in Iranian postmenopausal women (Najafabadi et al., 2015). A study in Turkey found increased marital adjustment scores were associated with decreased menopausal symptoms of women (Coban et al., 2008).

In Turkey, there is limited research investigating the association between attitudes towards menopause and perceived social support during this time of physical and emotional changes. This study was conducted to investigate the relationship between perceived social support and attitudes towards menopause of Turkish women ages 45 and older and to determine affecting factors on attitude and perceived social support.

Questions of this research:

- What are women's attitudes towards menopause and their perceived social support?
- Is there a relationship between attitudes towards menopause and perceived social support?
- What are the related factors regarding women's attitudes towards menopause and perceived social support?

Methods

Study design and Sample

The study was conducted as a descriptive and cross-sectional design. The sample of this study was included 93 women who were all aged 45 and older and volunteered to participate. The study was performed between 29 December 2014 and 19 June 2015 at gynecology outpatient clinic of a public health in northeast of Turkey.

Data Collection

The data were collected with questionnaire form, Multidimensional Scale of Perceived Social Support (MSPSS) and Attitudes towards Menopause Scale. Menopausal status of participants was defined as follow: Premenopausal period is defined regular or irregular menstruation or the last menstrual bleeding occured >3 and <12 months prior to the study. Women who have not menstruated within the previous 12 months are categorized as postmenopausal (Cheng et al., 2005).

Questionnaire Form

The questionnaire form had two parts with questions about women's socio-demographic obstetric characteristics, knowledge and behaviours with menstruation and menopause. The first part of the questionnaire asked about age, weight, height marital status, duration of marriage, number of pregnancy number of child, education level, occupation, family type, husband's being alive, husband education level and occupation, place of residence, family income, social insurance and having a chronic disease. The second part of the questionnaire asked about their menarche age, whether dysmenorrhoea was experienced during menstruation, having physicial problems during menstruation, the last menstruation time, menopausal status, having gynecological problems, having gynecological operation, whether menopause was experienced natural or surgical, having knowledge about menopause, whether a doctor had been consulted because of menopause, using hormone replacement therapy, whether traditional therapy was used for menopausal problems, using oral contraception, whether husband support was got for menopausal complaints, using permanent drug, smoking cigarettes, physicial exercise habit, whether anyone need of care was in family and thoughts about their health (Erbil et al., 2012; Şentürk Erenel et al., 2015; Çoban et al., 2008; Akkuzu et al., 2009).

Attitudes Towards Menopause Scale

Attitudes Towards Menopause Scale (ATMS) can be used to evaluate attitudes towards menopause of women who are experiencing menopause or not yet in menopause. ATMS was developed by Neugarten et al. in 1963. Turkish version of ATMS was adapted and revised by Uçanok and Bayraktar in 1996. There were 18 negative and 2 positive items on the scale. For positive items, "I definitely don't agree" rated a score of 0 points; "I don't agree answer" scored 1 points; "I am not sure" answer scored 2 points; "I agree" answer scored 3 points; "I definitely agree" answer scored 4 points. The score of negative items of the scale were reversed. The highest score of the scale was 80 and the lowest score was zero. The cut of point of the scale was 40 points. Women who receive 40 points or higher have a positive attitude. Cronbach's alpha reliability coefficient in Turkish version was 0.86 (Uçanok & Bayraktar, 1996). In this study, Chronbach Alpha value of ATMS was found 0.73.

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet and collegues (1988) evaluates perceived adequacy of social support from 3 sources: family, friends, and significant other (Zimet et al., 1998). Twelve-item ratings are made on a 7-point Likert-type scale ranging from very strongly disagree (1 point) to very strongly agree (7 points). The scale scores for the MSPSS can range from 12 to 84, with higher scores indicating higher perceived levels of social support. Three separate scores can be calculated for the sources of support; Significant other scale items are 1, 2, 5, 10 numerous items; Family scale items are 3, 4, 8, 11 numerous items; and Friends scale items are 6, 7, 9, 12 numerous items. In addition, the total of all items indicates total perceived social support grades. The reliability and validity of Turkish version of the MSPSS instrument was established by Eker and Arkar (2001). Eker and Arkar determined Cronbach's alpha reliability coefficients are 0.92 for significant other, 0.80 for family, 0.85 for friends, 0.83 for total MSPSS. In this study, Cronbach's alpha reliability coefficients were found as 0.95 for significant other, 0.91 for family, 0.87 for friends, 0.90 for total MSPSS.

Statistical Methods

The data was analyzed using descriptive statistics methods including frequency, percentage, arithmetic mean, standard deviation, range, maximum, minimum scores. The t-test, Kruskal-Wallis test and Mann-Whitney U test were used as descriptive analysis to determine an association between dependent and independent variables. After Kruskal Wallis analysis, Mann Whitney U test with Bonferroni correction was used to determine the group in which the difference occurred. The Pearson's correlation analysis test was used to determine the relation between MSPSS and ATMS scores and continuous independent variables. The reliability was evaluated using the Cronbach's alpha reliability coefficient. The statistical significance was set $p<0.05$.

Results

This study was conducted 93 women with who 45 ages and older. The average age of the women was 51.21±4.71 (range 45-60) and 53.8% of them were in the 45-50 age group, average menarche age of women was 12.75±1.22 years (range 11-16), average number of pregnancies was 3.50 ±1.46 (1-9)

(n=86), their number of children was 3.13±1.22 (range 1-7) (n=86), their duration of marriage was 29.32 ±6.06 years (range 17-41) (n=77), last menstruation duration of women transition to menopause was 6.74±3.19 years (range 1-15).

It was determined that 31.2% of them graduated from primary school, 66.7% of them were housewifes, 72% of women were married, 71% of them had nucleus family, 41.8% of their husbands graduated from high school, majority of their husbands were self-employment (37.4%), 90.3% of them had social security, 65.6% of them had "middle" income perception, 63.4% of women lived in province and 43% of them were in overweight groups (see Table 4).

Thirty three percent women had a chronic disease, 33.3% of them used a drug, 26.9% of them smoked cigarettes, 31.2% of them done physical exercise, 18.3% of them had someone in need of your care in the family, 64.5% of them evaluated as good self-health. 31.2% of them had dysmenorrhea, over half of women (64.5%) were in postmenopausal period, majority of women were natural menopause (86%), 52.7% of them received information about menopause, 33.3% of them had a spousal support related menopause (see Table 5).

It was determined that ATMS mean score was 36.31±7.75 (range 18-56), family subscale mean score was 21.61±4.43 (range 4-28), friend subscale mean score was 18.40±3.99 (range 6-26) and significant other subscale mean score was 14.91±6.32 (range 4-26) of MSPSS. The average total MSPSS score of social support scale was 54.93±11.63 (range 22-77) (see Table 1).

The results of this study revealed that 66.7% of the women had a negative attitude towards menopause and their mean score (31.87± 4.77) was lower than women with positively attitude. The family support (20.93±4.75), friend support (17.66±4.30) and significant other support (13.66±5.98) and total MSPSS score means (52.25±11.71) of women who had negatively attitude towards menopause were lower than women with positively attitude and differences were statistically significant (respectively, p=.037, p=.010, p=.000, p=.001), (see Table 2).

The statistically positively significant correlations were found between total MSPSS scores (r=.443), family support subscale (r=.404), friend support (r=.389), significant other support (r=.285) and attitude towards menopause scale score of women (see Table 3). Also, the positively significant correlations were found between scores of attitudes towards menopause and age (r=.-342), duration of marriage (r=-.388), number of pregnancies (r=-341), number of children (r=-.325), duration of menopause (r=-269), and menarche age was no correlated (see Table 5). In addition to, the negatively significant correlations were found between scores of total MSPSS and age (r=-301), duration of marriage (r=-.398), number of pregnancies (r=-.420) number of children (r=-.386) was significant, and menarche age and duration of menopause were no correlated (see Table 4).

Women's the ATMS average scores according to age groups (p=.020), educational level (p=.000), working status (p=.001), marital status (p=.001), family type (p=.036), husband's education level (p=.013), husband's working status (p=.039), income perception (p= .006), place of residence (p= .001), body mass index groups (p=.000), physical exercise status (p=.010), perception of health (p=.000), menopausal status (p =.010), information about menopausal (p =.039) were compared and the differences between groups were statistically significant (see Table 4,5).

The MSPSS average scores according to age groups (p=.029), education level (p=.000), working status (p=.002), marital status (p =.003), the income perception (p=.012), place of residence (p=.000), physical exercise status (p=.004), perception of health (p=.023) and information about menopausal (p =.008) of women were compared and the differences between groups were statistically significant (see Table 4,5).

Table 1. Cronbach alpha values and mean, minimum, maximum scores of ATMS, MSPSS and its subscales

Scales	Scales min-max values	Marked min-max values	Scale mean	SD	Cronbach Alpha
ATMS	0-80	18-56	36.31	7.75	.73
MSPSS	12-84	22-77	54.93	11.63	.90
Family subscale of MSPSS	4-28	4-28	21.61	4.43	.91
Friends subscale of MSPSS	4-28	6-26	18.40	3.99	.87
Significant other subscale of MSPSS	4-28	2-26	14.91	6.32	.95

Table 2. Differences of women's MAS and MSPSS with subscales scores and distribution of women according to intensity of attitude towards menopause

ATMS score	n	%	ATMS mean±SD	F amily subscale mean±SS	Friend Subscale mean±SS	Significant other subscale mean±SS	MSPSS mean±SS
Negative attitude (0-39)	62	66.7	31.87±4.77	20.93±4.75	17.66±4.30	13.66±5.98	52.25±11.71
Positive attitude (40-80)	31	33.3	45.19±3.96	22.96±3.41	19.90±2.79	17.41±6.33	60.29±9.57
Total	93	100.0	36.31±7.75	21.61±4.43	18.40±3.99	14.91±6.32	54.93±11.63
P value			t=-13.383 p=.000	t=-2.121 p=.037	t=-2.630 p=.010	t=-13.383 p=.000	t=-3.302 p=.001

Table 3. The correlations between Attitudes towards Menopause Scale, MSPSS and its subscales scores and continuous variables

Variables	Attitudes towards Menopause Scale	F amily subscale	Friend Subscale	Significant other subscale score	MSPSS totally Score
	r	r	r	r	r
Attitudes towards Menopause Scale	-	.404**	.389**	.285**	.443**
Family subscale	.404**	-	.391**	.271**	.663**
Friends subscale	.389**	.391**	-	.607**	.822**
Significant other subscale	.285**	.271**	.607**	-	.855**
MSPSS	.443**	.663**	.822**	.855**	-
Women'age (n=93)	-.342**	-.224*	-.369**	-.163	-.301**
Menarche age (n=93)	.029	.100	.074	.013	.071
Duration of marriage (n=77)	-.388**	-.182	-.441**	-.320**	-.398**
Number of pregnancy (n=86)	-.341**	-.171	-.398**	-.408**	-.420**
Number of child (n=86)	-.325**	-.092	-.388**	-.404**	-.386**
Duration of menopause	-.269*	-.271*	-.250	-.002	-.193

r : Pearson's correlation coefficient
**Correlation is significant at the 0.05 level*
*** Correlation is significant at the 0.01 level*

Table 4. Differences of MSPSS and ATMS scores according to socio-demographic variables of women (n=93)

Socio-demographic variables	n (%)	ATMS mean ±SD	p value	MSPSS mean±SD	p value
Age (year)					
45-50 age	58 (53.8)	38.04 ± 7.34		57.42± 9.91	
51 and older age	35 (46.2)	34.30 ± 7.81	**p =.020†**	52.04±12.88	**p =.029†**
Education level					
Literate[1]	19(20.4)	32.40 ± 6.11		50.50 ± 14.03	
Primary school[2]	29 (31.2)	31.92 ± 6.18		50.25 ± 9.81	
Middle school[3]	21 (22.6)	36.80 ± 6.49	**p = .000‡**	55.19 ± 9.14	**p = .000‡**
High school[4]	16 (17.2)	42.43 ± 5.09		62.62 ± 7.69	
University and higher[5]	8 (8.6)	44.87 ± 5.16		67.25 ± 7.24	
Differences between groups*		1-2, 1-3, 1-4,1-5, 2-5,2-4, 2-3, 3-4 , 3-5		1-4, 1-5,2-4, 2-5, 3-4, 3-5	
Working status					
Housewife[1]	62 (66.7)	34.09 ± 6.94		52.01 ± 11.10	
Officer[2]	21 (22.5)	41.47 ± 8.05	**p= .001‡**	60.42 ± 11.20	**p= .002‡**
Retired[3]	10 (10.8)	39.00 ± 6.16		61.50 ± 9.61	
Differences between groups*		1-2, 2-3		1-2, 2-3	
Marital status					
Married[1]	67 (72.0)	36.82 ± 7.47		55.29 ± 11.21	
Single[2]	5 (5.4)	46.00 ± 3.39	**p = .002‡**	68.80 ± 1.64	**p = .003‡**
Widow[3]	21 (22.6)	32.38 ± 7.02		50.47 ± 11.73	
Differences between groups*		1-2, 1-3		1-2	
Family type					
Nucleus family[1]	66 (71.0)	37.71 ± 7.24		56.25 ± 11.09	
Large family[2]	21 (22.6)	32.76 ± 8.32	**p= .036‡**	53.14 ±11.79	p= .200‡
Alone living[3]	6 (6.5)	33.33 ± 7.58		46.66 ± 1.71	
Differences between groups *		1-2			
Husband education status (n=67)					
Primary school[1]	15 (22.4)	34.06 ± 6.15		50.46 ± 12.80	
Middle school[2]	15 (22.4)	33.33 ± 6.30		54.40 ± 7.74	
High school [3]	28 (41.8)	38.53 ± 6.55	**p=.013‡**	56.71 ± 9.12	p=.075‡
University[4]	9 (13.4)	41.88 ± 10.19		60.44 ± 16.83	
Differences between groups*		2-3, 3-4			
Husband working status (n=67)					
Worker[1]	10 (14.9)	33.40 ± 5.42		55.00 ± 10.05	
Officer[2]	9 (13.4)	41.77 ± 6.94		60.77 ± 9.53	
Farmer[3]	6 (8.9)	33.83 ± 8.28	**p=.039‡**	49.33 ± 12.38	p=.248‡
Self-employment[4]	25 (37.4)	38.60 ± 7.57		56.96 ± 10.97	
Retired[5]	17 (25.4)	34.64 ± 6.91		52.23 ± 11.98	
Differences between groups*		1-2, 1-4, 2-3, 2-5			
Social security					
Yes	84 (90.3)	36.65 ± 7.91		55.17 ± 11.57	
No	9 (9.7)	33.11 ± 5.30	p=.187 §	52.66 ± 12.64	p=.617 §
Income perception					
Bad[1]	12 (12.9)	31.25 ± 5.81		48.50 ± 13.48	
Middle[2]	61 (65.6)	36.11 ± 7.95	**p= .006‡**	54.43 ± 10.52	**p= .012‡**
Good [3]	20 (21.5)	39.85 ± 6.73		60.10 ± 12.26	
Differences between groups*		1-2, 1-3, 2-3		1-3, 2-3	
Most long-term living place					
Village[1]	15 (16.2)	32.93 ± 6.92		43.33 ± 13.55	
District[2]	19 (20.4)	33.05 ± 9.22	**p=.001‡**	49.63 ± 7.29	**p=.000‡**
Province[3]	59 (63.4)	38.22 ± 6.87		59.59 ± 9.37	
Body Mass Index					
Normal (BMI 18.6-24.9)[1]	17 (18.3)	42.35± 7.49		56.94± 11.11	
Overweight (BMI 25.0-29.9)[2]	40 (43.0)	36.35± 7.06	**p = .000‡**	56.30± 12.30	p = .204‡
Obese (BMI 30 and higher)[3]	36 (38.7)	32.75± 6.74		52.47± 10.98	
Differences between groups*		1-2, 1-3,2-3			

† t test., ‡Kruskal Wallis test., § Mann Whitney-U test,
** It was used Mann Whitney U with Bonferroni correction for differences between groups*

Table 5. Differences of MSPSS and ATMS scores according some variables of women

Variables	n (%)	ATMS mean±SD	p value	MSPSS mean ±SD	p value
Having chronic diseases					
Yes	31(33.3)	34.74 ± 9.08		51.70 ± 13.74	
No	62 (66.7)	37.09 ± 6.94	p = .169 †	56.54 ± 10.16	p = .089†
Used drug					
Yes	31 (33.3)	34.51 ± 8.16		52.96 ± 12.54	
No	62 (66.7)	37.34 ± 7.42	p= .099†	56.26 ± 10.88	p= .196†
Smoking					
Yes	25 (26.9)	37.40 ± 7.23		56.60 ± 11.36	
No	68 (73.1)	35.91 ± 7.94	p=.340 ‡	54.32 ± 11.76	p=.292 ‡
Doing physical exercise					
Yes	29 (31.2)	39.41 ± 7.25		59.79 ± 9.78	
No	64 (68.8)	34.90 ± 7.61	**p= .010**‡	52.73 ± 11.80	**p= .004**‡
Is there someone in need of your care ?					
Yes	17 (18.3)	35.52 ± 7.31		55.05 ± 12.21	
No	76 (81.7)	36.48 ± 7.88	p= .665 ‡	54.90 ± 11.58	p= .941‡
Perception of health					
Very good	11 (11.8)	44.90 ± 6.36		62.54 ± 9.62	
Good	60 (64.5)	36.41 ± 7.31	**p= .000**§	55.13 ± 11.20	**p= .023**§
Bad	22 (23.7)	31.72 ± 5.75		50.59 ± 12.08	
Dysmenorrhea					
Yes	29 (31.2)	38.06 ± 7.74		54.72 ± 9.69	
No	64 (68.8)	35.23 ± 7.41	p = .138‡	54.68 ± 12.27	p = .830‡
Menopausal status					
Postmenopausal period	60 (64.5)	34.78 ± 7.58		53.21± 12.66	
Premenopausal period	33 (35.5)	39.09 ± 7.37	**p =.010**†	58.06 ± 8.83	p = .054†
Menopause type (n=57)					
Naturally	49 (86.0)	34.77 ± 7.69		53.26 ± 13.35	
Surgery	8 (14.0)	37.50 ± 5.18	p= .171‡	55.62 ± 6.78	p= .637‡
Received information about menopause					
Yes	49 (52.7)	37.87 ± 7.75		57.91 ± 10.36	
No	44 (47.3)	34.56 ± 7.45	**p= .039**†	51.61 ± 12.17	**p= .008**†
Spousal support with menopause					
Yes	27 (29.0)	37.66 ± 8.13		55.59 ± 11.26	
No	31 (33.3)	35.41 ± 6.82	p=.382‡	52.96 ± 11.80	p=.268 ‡

† t test.
‡ Mann Whitney-U test.
§ Kruskal Wallis test.

Discussion

This study found that a majority of women (66.7%), who were 45 years of age and older, had a negative attitude towards menopause. Also, the statistically positively significant correlations were found between total MSPSS scores and its subscales. These included family support subscale, friend support, and significant other support and ATMS scores of women. Our study findings determined that strong perceived social support positively affects women's attitudes towards menopause. Another study found that 92% of Italian women going through menopause accepted it as a normal phase of life, and more than 40% thought it to be a good experience (Donati et al., 2009). A previous study indicated that post-menopausal and non-menopausal Taiwanese women have a higher awareness of menopause than other Asian women (Pan et al., 2002). In Bahraini women displayed a considerable range of attitudes towards menopause, ranging from neutral to positive; premenopausal women had more negative attitudes towards menopause than perimenopausal or postmenopausal Bahraini women (Jassim and Al-Shboul, 2008). In Iran was revealed that most women (71%) had a neutral attitude and 22.8% of them had positive attitudes towards menopause (Ghorbani et al., 2014). The meta-analysis of this same study found that 58% of Iranian women had neutral attitudes, 25% of them had positive attitudes, and 17% had negative attitudes towards menopause (Bahri et al., 2016). The Turkish study showed that more than half of the women had negative attitudes towards menopause (Erbil et al., 2012). In Turkey, a study using an attitude towards menopause scale in which they found that women had negative attitudes towards menopause (Tortumluoğlu and Erci, 2004), however, another study revealed women's positive attitudes towards menopause (Çoban et al., 2008). Results in this study concerning attitudes towards menopause were similar to some research findings (Tortumluoğlu and Erci 2004; Erbil et al., 2012; Ghorbani et al., 2014; Bahri et al., 2016) yet different from other studies (Jassim and Al-Shboul, 2008; Çobanet al., 2008). Differences in results may be due to women's various educational, cultural, and ethnic characteristics.

For many women, changes in their family and social environments during menopause can create a crisis leading to relationship conflicts. These issues are not just a concern for women, but also for their families and social and business communities. These changes can affect their work, management decisions, and their efficiency (Karlıdere and Özşahin, 2008). Having a positive and strong social support system is a positive factor for avoiding the development of emotional or psychiatric problems in the menopausal period (Karlıdere and Özşahin, 2008). Adequate and strong social support can help women address the grief of the losses experienced during the climacteric period (Zhang et al., 2016). It was indicated that many symptoms of menopause can be prevented by providing women and their families with knowledge about menopause and its management (Qazi, 2006). Studies have reported that women with less family support have been found to have more severe mental health problems and irritability during the transitional period to menopause (Çifcili et al., 2009). A study was found that over two-thirds of women experiencing symptoms attributed to menopause discussed their symptoms with friends and family (Duffy et al., 2012). A focus group study of menopausal women in the United Kingdom indicated that talking with others about menopause, feeling supported by their experience, and discussing the different management strategies can help to ease the menopausal symptoms (Duffy et al., 2011). Depressive symptoms are associated with low social support scores (Li et al., 2008), poor social support increases the risk of anxiety and depression (Binfa et al., 2004), depression is significantly and negatively associated with a woman's social support during menopause (Sadat, Abbaszadeh and Taebi, 2009). In a study noted that middle-aged woman and her family with comprehensive information on menopause would be better prepared to experience this period with less fear and better control (Hunter and Rendall, 2007).

The following factors played a statistically significant part in a woman's more positive attitude towards menopause: being age 50 and younger, higher education level, working outside the home, being single, having normal BMI, and being in a nuclear family. Other factors were a husband with higher education, a husband who is a civil servant, having a higher income perception, living in a province, doing physical exercise, having a positive health perception, and being premenopausal, being informed about menopause, and the differences between groups were statistically significant (see Table 4,5). The "transition phase" occurs with greater ease in working women (Nijs, 1998). A previous study reported that menopausal status, educational level, marital status, place of residency, and employment were not associated with women's

attitudes towards menopause (Ghorbaniet al., 2014). A moderate level of physical activity was associated with reduced psychosocial and physical menopause symptoms in perimenopausal Korean women (Kim et al., 2014). In rural Iranian women had a more negative attitude towards menopause than urban Iranian women (Khademi and Cooke, 2003). Older women with a higher educational level had more positive attitudes towards menopause (Kısa et al., 2012). In addition, there was no statistically significant difference between employed women, parity, marital status and attitudes towards menopause of women. These results were consistent with the literature.

In this study, the MSPSS scores were higher than for other women in the following categories: age 50 and under, higher education level, working, higher income perception, single, living in a province, doing physical exercise, and having a positive health perception. The differences between groups were statistically significant (see Table 4,5). Inadequate social support increases the frequency of menopausal symptoms during menopause (Karlıdere and Özşahin, 2008). The findings of this study indicated a significant relationship between the woman's level of education and perceived social support. Women with high education levels have a better understanding of perceived social support, which is concordant with the results of studies (Najafabadi et al., 2015; Rambod and Rafii, 2010). This study revealed a significant relationship between perceived social support and marital status; married women reported the worst perceived social support. Furthermore, it was highlighted a significant relationship between perceived social support and age, marital status, education level, job status, number of children, number of childbirths, and residence status of Iranian postmenopausal women (Najafabadi et al., 2015). Married women with a higher education level reported better perceived social support. Husbands who demonstrated support for their wives during menopause significantly impacted their wives' health in a positive manner. Indeed, the quality of the marital relationship was also a parameter of women's health (Brennan et al., 2011). Studies have shown that a woman's marriage and relationship with her husband play an important role in dealing with complaints of this period (Montero et al., 1993; Koster and Davidsen, 1993; Bayraktar and Uçanok, 2002). A previous study in Turkey showed that the severity of menopausal complaints might be related to the husbands' attitudes towards menopause (Aksu et al., 2011). It was reported on the necessity for educational interventions to help men better support their wives in passing through menopause (Hidiroglu et al., 2014). A study found taht one-third of the husbands of perimenopausal women believed they were not supportive, but the majority said they provided mostly emotional support Mansfield et al., 2003). Most husbands had some information about menopause, but more than one in four knew little or nothing. A lack of information, the negative effects of their wives'menopausal transition, and their own stresses may have interfered with husbands' ability to provide social support (Mansfield et al., 2003). Men with adequate knowledge about menopause health can help improve their spouses'quality of life in this period (Bahri et al., 2016).

Limitations of the study are that it was a cross-sectional study and a small sample size confined to specific Turkish women. The study sample was performed in a public hospital in the northeast of Turkey. Therefore, the results of this study can be generalized only to the subjects of this study.

Implications for Practice and/or Policy

This study found the majority of women are negative attitudes toward menopause, women's perceived social support during menopause is at low levels. The results determined that strong perceived social support positively affects women's attitudes towards menopause. Informational programs need to be focused on developing positive attitudes in both women and men to help couples and strengthening women's social support and preparation during menopause. Informational programs need to be focused on developing positive attitudes in both women and men to help couples and families more easily navigate the changes which occur during this time of a woman's life. Educational programs on this important topic need to be developed by both health professionals and healthcare policy makers.

Conclusion

In this study, the majority of women age 45 and older ages had negative attitudes toward menopause. Women's perceived social support during menopause was at low levels. Positive significant correlations were found between the family support subscale, friend support, significant other support, total MSPSS scores and attitude towards menopause scale score of women. Furthermore, significantly higher attitude scores towards menopause were obtained by women who were age 50 and under, had a higher education level, were working, single, had

normal BMI, had a nuclear family, had a husband, had a husband with higher education, had a husband who was a civil servant, had higher income perception, were living in province, did physical exercise, had a positive health perception, were in the premenopausal period, and had information about menopause. The MSPSS scores were higher for women who counted themselves in the following categories: age 50 and under, higher education level, civil servant, living in a province, higher income perception, single, doing physical exercise, positive health perception, in premenopause period and informed about menopause.

In conclusion, women, as well as society in general, should have access to current and accurate information concerning women's health issues. In particular, attention is needed regarding the topics of women's menstrual health to include premenopause, perimenopause, and finally full menopause at which point menses have ceased continously for a period of twelve months. Health professionals have a major role in strengthening women's social support and preparation during menopause. Therefore, educational programs on this important topic need to be developed by both health professionals and healthcare policy makers. Education needs to emphasize the importance of social support for women to strengthen positive attitudes towards the natural changes which will occur. Informational programs need to be focused on developing positive attitudes in both women and men to help couples and families more easily navigate the changes which occur during this time of a woman's life.

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RESEARCH ARTICLE

Partial Overview of Benign Skin Lesions

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Abstract

Objective: The skin is the largest organ of our body and may develop different benign skin lesions in different periods of life. Benign skin lesions generally cause cosmetic discomfort and morbidity is not high. However, as part of some syndromes they may be precursors of paraneoplastic or metabolic diseases. In this study benign skin lesions frequently sent to Ordu University Faculty of Medicine Pathology Department were analyzed and discussed accompanied by the literature.

Material and Methods: The study included 127 benign skin lesion cases with diagnosis at the pathology laboratory in our center in 2015 and 2016. Preparations were retrospectively re-assessed and current diagnoses recorded. The age, gender and lesion localization of patients included in the study were recorded.

Results: Of cases, 34 had epidermal cyst, 33 had fibroepithelial polyp, 10 had squamous papilloma, 23 had seborrheic keratosis, 18 had trichilemmal cyst and 9 had verruca vulgaris. Of all cases 55.2% were male and 44.8% were female. There were 69 cases (54%) with head and neck localization, and 58 cases (46%) with localization other than the head and neck. Head and neck localization was present for 41% of epidermal cysts, 88% of trichilemmal cysts, all squamous papilloma, 21% of fibroepithelial polyps, 65% of seborrheic keratosis and 77% of verruca vulgaris.

Conclusion: There were higher male patient rates among cases included in the study. According to frequency, locations included the head-neck, trunk, genital region and extremities. Disease was identified in all age ranges. The study concluded that for diagnostic methods to be effective and accurate for benign skin lesions, it is necessary to use pathologic methods.

Key words: Epidermal cyst, fibroepithelial polyp, seborrheic keratosis, squamous papilloma, trichilemmal cyst, verruca vulgaris

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Introduction

Keratinous cysts are benign cystic lesions commonly observed on the skin (Juan, 2004). There are two types of epidermal cyst (EC) and trichilemmal cyst (TC) (Juan, 2004). They may occur on any area of the body. Additionally, they are most commonly observed on the face and scalp in addition to the neck and trunk (Handa, 2002). EC occurs more than two times more often in males compared to females. ECs are mostly observed in the third and fourth decade of life, but may occur at any age (Handa, 2002).

Verruca vulgaris (VV) and squamous papilloma (SP) are lesions associated with human papilloma virus (HPV) (Min Jung, 2010; Murphy, 1997; Premoli-de-Percoco, 1993). VV which contain papillomatous changes may be confused with SP or irritated seborrheic keratosis (SK). In terms of HPV

effect and papillomatous changes, SP, SK and fibroepithelial polyps (FP) should be differentiated. In this situation it may be necessary to perform excision for both differential diagnosis and for cosmetic reasons.

In the literature, the number of studies about benign skin lesions in the Turkish population is low. Additionally, there are limited studies mainly about head-neck localization in the literature. This study investigated cases in our region with the benign skin lesions of EC, TC, SK, SP, FP and VV observed in any area of the body in terms of demographic data and discussed them accompanied by the literature.

Methods

The study included 127 benign skin lesion cases diagnosed at the pathology laboratory in our center in 2015-2016. Preparations were retrospectively re-evaluated and current diagnoses confirmed. The study recorded information about patient age, gender and lesion localization.

Results

Cases comprised 34 EC (Figure-1), 33 FP (Figure-2), 10 SP, 23 SC (Figure-3), 18 TC and 9 VV (Figure-4) cases.

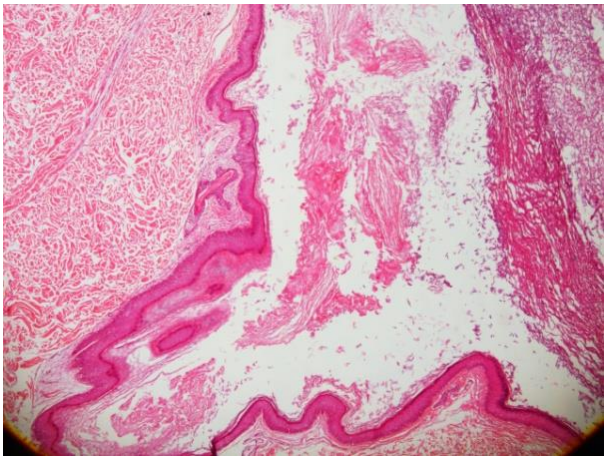

Figure 1. Definite cyst with multi-layered smooth epithelium and granular layer (H&EX40)

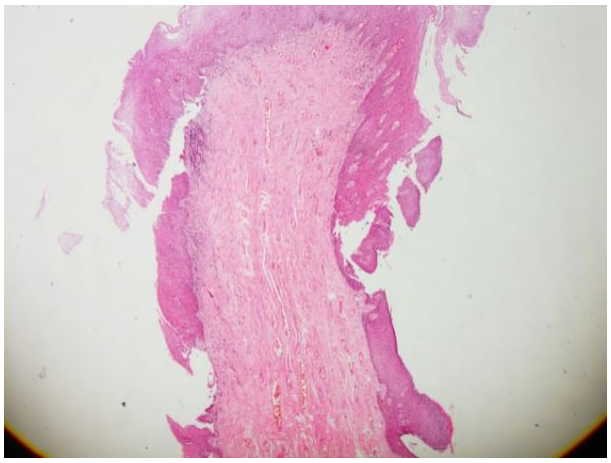

Figure 2. Polypoid mass with multi-layered smooth epithelium containing fibrous stroma (H&EX40)

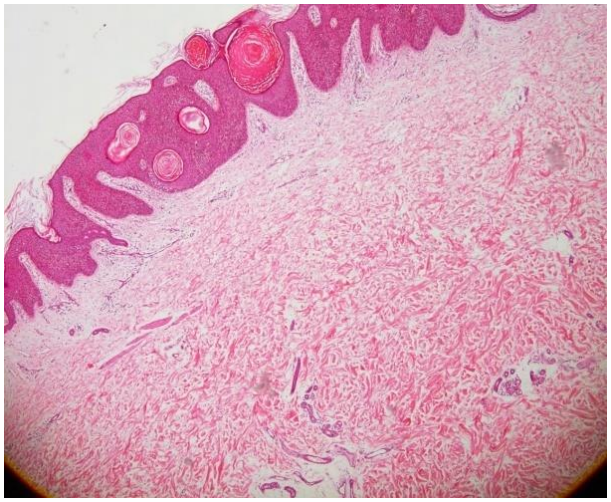

Figure 3. Basal cell proliferation and horn cysts present (H&EX100)

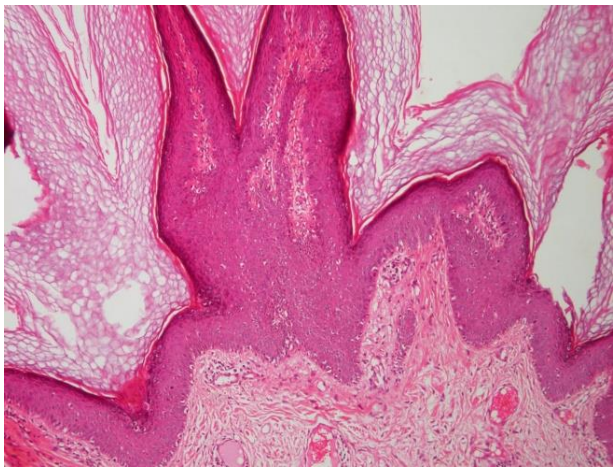

Figure 4. Exophytic papillary appearance and koilocytic appaerence (H&EX40)

Of the EC, 14 had head-neck localization (41%), 8 were on extremities, 1 had genital localization and

7 were on the trunk. Twenty-six of the cases were male and 8 were female. The mean age was 45 years, with age distribution varying from 1 to 86 years.

For FP cases, 15 had genital region localization, 7 had head-neck localization (21%), 12 cases had trunk localization and 3 cases had extremity localization. Of cases, 11 were male and 22 were female. The mean age was 48 years, with age distribution varying from 21 to 76.

All SP cases had head-neck localization. There were 2 females and 8 males. The mean age was 50.4 years, with age distribution from 25 to 82 years.

There were 13 female and 10 male SC cases. In terms of localization, 15 were on the head-neck (65%), 5 on the trunk and 4 in the genital region. The mean age was 55 years, with ages ranging from 19 to 79.

Of TC cases, 2 had trunk localization and 16 (88%) had head-neck localization. Mean age was 47 years, with the youngest age 26 and oldest age 70. Of cases, 8 were female and 10 were male.

For VV cases, localization was head-neck for 7 (77%) and extremities for 2 cases with 5 male cases and 4 female cases. The mean age was 49.6 years with age range from 18 to 72.

For all cases there were 55.2% males and 44.8% females. The number with head-neck localization was 69 (54%) with 58 having non-head-neck localization (46%).

Discussion

Cutaneous cysts generally are located on the head-neck and are most commonly observed on on the scalp in the head and neck region. In the literature, there are insufficient studies about other localizations and demographic characteristics (Golden, 2005, Al-Khateeb, 2009). This study identified the cutaneous cysts may be observed on different areas of the body in addition to the head and neck. Karabulut et al. in a study of keratinous cysts stated that the most common type located on the scalp was TC and reported there were more women in this group (Karabulut, 2014). The same studies observed TC at 62.8% rates in females and EC at72% rates in males (Karabulut, 2014). In this study, 41% of EC were located on the head and neck, with 59% located in other areas of the body. For TC 88% were located on the head and neck with 12% located in areas other than the head and neck. Different from literature data showing no difference in gender distributions, the study identified that both keratinous cysts were identified at higher rates in males. Additionally, the number of males with EC was observed to be much greater (Golden, 2005; Al-Khateeb, 2009). This situation may be explained by the low number of cases in the study and assessing other cutaneous cysts in addition to keratinous cysts. When keratinous cysts are assessed in terms of mean age, it was 42.3 years in the study by Karabulut et al., 29.14 years in the study by Khateeb et al. and 44.1 years in the sutdy by Golden et al. (Golden, 2005; Al-Khateeb, 2009; Karabulut, 2014).In this study, the mean age for EC cases was 45.22 years and for TC cases was 47 years. This situation is not similar to the literature but may be due to the low number of cases and the region of the study.

Fibroepithelial polyps (acrochordon, skin tag, papilloma) are common benign skin tumors associated frequently with obesity and insulin resistance. Some may have stems and others may not (Luba, 2013). Generally, they have diameter of 1-5 cm and are skin-colored. They very rarely reach large dimensions like 20 cm. They are commonly observed in fold regions like the groin, axilla and neck, but more rarely are observed on the external genital organs (Premoli-de-Percoco, 1993; Murphy, 1997; Min Jung, 2010). In this study, in addition to the tendency to occur in fold regions, there was a tendency to be located in the genital region observed. Of fibroepithelial polyp cases, 15 had genital region localization. There were 7 cases with head-neck localization, 12 cases with trunk localization and 3 cases with extremity localization. There was a higher proportion of female cases identified. The ages varied from 21 to 76 years with mean age of 48.85. A study assessing 750 cases identified FP at 46% rates with 25% male and 21% female (Banik, 1987). Differently, in our study female dominance was determined. In the study by Banik et al. (1987) the most common localization was the axilla. The differences may be due to the higher number of cases in this study.

For clinical and histopathologic differential diagnosis of fibroepithelial polyps, intradermal melanocytic nevi, seborrheic keratosis, plexiform neurofibroma, genital or non-genital verruca should be included with definite diagnosis placed with histopathologic investigation (Premoli-de-Percoco, 1993; Murphy, 1997; Min Jung, 2010). Acrochordon-like structures observed in the childhood period may be initial lesions for nevoid basal cell carcinoma syndrome (Luba, 2003).

Squamous cell papilloma are sourced in the squamous epithelium of the epidermis and mucous

membranes. These lesions may reach several centimeters in size and the majority of the time are observed a papillomatous lesions with multiple localizations. These are cutaneous lesions caused by HPV (Janet, 1999; Madueke-Laveaux, 2013,). In this study all had head-neck localization. Of cases, 2 were female and 8 were male with mean age of 50.4 years and age range from 25 to 82 years.

Seborrheic keratosis may occur as multiple lesions increasing in number with advancing age. They may occur on any mucous membrane apart from the hands and sole of thefeet, with the most commonly affected areas the face, neck, upper extremities and trunk, especially the upper section of the back (Konishi, 2003). Differential diagnosis of SK should include malignant melanoma, melanocytic nevi, verruca vulgaris, condyloma acuminatum, fibroepithelial polyp, epidermal nevi, actinic keratosis, pigment basal cell carcinoma and squamous cell carcinoma (Roshni, 2007). Treatment of keratosis generally has cosmetic aims, but sometimes is toreduce irritation or to exclude malignancy. Treatment choices for seborrheic keratosis include cryotherapy, curettage, electrocauterization and shave excision (Bolognia, 2012; Higgins, 2015).

In this study, there were more female seborrheic keratosis cases compared to males. Of cases 15 had head-neck localization, 5 had trunk and 4 had genital region localization. The age range was from 19 to 79 years with mean age of 55. In the literature there is one study with similar female rates. However, differently the most common localization in this study was the trunk (Yeatman, 1997). This difference may be linked to the evaluation of more than one different lesion in the study.

Verruca vulgaris etiology included hyperkeratotic, exophytic and dome-shaped papules or nodules of human papilloma virus. They are most common on the fingers, dorsal side of the hand and knee and elbow and may be localized to other regions with tendency to trauma though they can occur in any area. There is no effective treatment and the majority of treatment target removing the lesions or inducing a cellular immune response (Bolognia, 2012). On histopathology of verruca vulgaris, acanthous, papillomatous, hyperkeratosis, and koilocytic effect in upper epidermis cells is noted for differential diagnosis. The mitotic figures of verruca vulgaris may be observed occasionally (Roshni, 2007). In this study, mitosis was not observed in the cases.

In this study, 7 VV cases (77%) had head-neck localization with 2 extremity cases and 5 male and 4 female cases. Mean age was 49.6 years with age range from 18 to 72. In this study head-neck localization and male gender were more commonly observed in verruca vulgaris cases. A study by Gönül et al. identified verruca cases most commonly had extremity localization and observed male dominance. Different to our study, this study only assessed verruca cases (Gönül, 2015).

In conclusion, the male patient rate was identified to be higher among cases included in the study. In terms of frequency, localization was head-neck, trunk, genital region and extremities. Benign lesions not located on the head-neck were most commonly fibroepithelial polyp, followed by epidermal cyst in second place and seborrheic keratosis in third place. Disease was identified in all age ranges. The study concludes that for diagnostic methods for benign skin lesions to be effective and accurate, it is necessary to use pathologic methods.

Ethics Committee Approval: Ethics committee approval was received for this study from Clinical Research Ethics Committee of Ordu University Medical Faculty.
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CASE REPORT

A Traumatic Asphyxia After a Construction Accident

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Abstract
The traumatic asphyxia is defined as cyanosis, petechiae on the face, neck, upper extremities and upper parts of the thorax and subconjunctival haemorrhage, retinal edema due to blunt thoracic trauma. Traumatic asphyxia is a rare syndrome. In cases of traumatic asphyxia, different neurological symptoms can be seen to be proportional to the severity of trauma. Treatment is conservative, but depends on the severity of prognostic-related injuries. In this article, we present a case of traumatic asphyxia syndrome in a 35-year-old male patient who had a traumatic asphyxia syndrome resulting from a construction accident. And in this context the literature, diagnosis, treatment and prognosis were discussed.
Key words: Thoracic trauma, traumatic asphyxia, treatment, prognosis

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Introduction

Traumatic asphyxia is a clinical condition due to increased venous pressure after severe, compressive, blunt and sudden chest trauma. This syndrome is also called acute thoracic compression syndrome or ecchymatic mask (Senoglu et al., 2006). Traumatic asphyxia is a rare syndrome, but mortality is high in proportion to the energy of trauma. In these cases cyanosis, petechiae, subconjunctival haemorrhage, retinal edema and different neurological findings may be presented (Guitron et al., 2009).

Case

A thirty-five-year-old male patient was admitted to the emergency room with the contraction of the right arm and the thorax and the region from the shoulder to the neck by the heavy body overturning. At the physical examination; the conscious is off (Glasgow Coma Score: E2 M4 V2), blood pressure 102/74 mmHg, heart rate 115 pulses / min, respiratory rate 23 breaths / min; the spO2 was 84% and the pAO2 was 65 mmHg in blood gas analysis. The head-neck and upper chest wall were cyanotic, edematous in appearance, with common petechial rash and subconjunctival haemorrhage. On the right side of the thorax, there were findings of a sail chest (flail chest) on the upper wall. Respiratory voices decreased in the right lung areas, and natural on the left. On chest X-ray; pneumothorax was detected. Due to respiratory distress, tube thoracostomy and closed underwater drainage were performed from the right side. The case was taken in mechanical ventilation support in pressure controlled mode. Computed tomography examination of the brain and routine laboratory values were usual. On the second day the consciousness was opened, on the seventh day the spontaneous respiration was passed and he was extubed on the eighth day. Because of the pneumothorax dimension, the thorax tube which was clamped on the ninth day was completely removed on the 10th day. The patient was discharged on the 14th day without any problems.

Discussion

Traumatic asphyxia first was described in 1837 by autopsy findings by Oliver d'Angers and named Perthe's syndrome. It is also called acute thoracic compression syndrome or ecchymatic mask. Although it is rare, its incidence is not known exactly. Although it usually develops due to blunt chest trauma, it may develop occasionally due to conditions that lead to an extended valsalva maneuver such as severe vomiting, pertussis, epilepsy and severe asthma (Besson et al., 1989). Asphyxia is of Greek origin as a word, meaning "unable to get a pulse or lack of pulse" and "drowning”. The main problem is the sudden and deep oxygen deficiency of the tissues. Although the physiopathologic mechanism of traumatic asphyxia is not fully known, it is thought that the effect of pressure on the heart, mediastinum due to acute trauma is responsible (Lee MC et al., 1991). During the trauma, four factors come into play to form this syndrome. These; deep inspiration, closed glottis, thoracoabdominal effort, and thoracoabdominal compression which leads to directing the blood to the cervicofacial area. (Çobanoğlu and Yalçınkaya, 2010). An increase in intrathoracic pressure with an acute mechanism results in an acute increase in pressure in the superior and inferior vena cava, mediastinal veins and right atrium. Depending on the acutely increased pressure, the blood primarily goes to the capless veins in the head and neck and causes a typical appearance in the clinic. Depending on the high pressure coming from the acute mass, the sudden increased pressure in the large veins is transmitted to the cervicofacial venules and then to the small venules and capillaries. Depending on this situation, blood escapes out of the vein. The valve system in the veins prevents the pressure build-up from entering the acute field. Traumatic asphyxia is seen only in the area where there are cervicofacial veins in which veins without a valve system are present (Kutlu CA, 2003). As a result, a cyanotic hemorrhagic appearance, scleral and subconjunctival hemorrhages and petechiae in the cranio-cervical region develop in the head and neck. The clinical picture varies according to the severity and duration of the trauma. Depending on the mechanism and location of the trauma, skin, eye, brain, nose, airways, breast, gastrointestinal tract and abdominal region findings can be found. Subconjunctival petechiae and subcutaneous haemorrhage are frequently seen. Especially in the head and neck region, cyanosis is common. Language, lips, mouth and pharyngeal petechia can be followed. Haemorrhage is frequently seen in the subconjunctival region with damage at the retina, vitreous and optic nerve (Sandiford JA et al., 1974). Bilateral optic disc edema has also been reported (Esme H. et al., 2006). Because of the blunt thoracic trauma, pathologic findings such as sail chest, rib fracture, lung contusion, hemopneumothorax may accompany the patients but any thoracic pathology may be observed too. An important part of the cases may be accompanied by cardiac injury. An important part of the cases may be accompanied by cardiac injury. Depending on the severity, duration and localization of the trauma, neurological findings in the patients may show different clinical tables ranging from mild symptoms to coma. Neurological symptoms are loss of consciousness, disorientation, agitation, brachial plexus injury without spinal cord injury, quadriplegia and coma. These findings are thought to be due to hypoxic damage such as cerebral edema and haemorrhage (Sandiford JA et al.,1974). The most important approach in patients with traumatic asphyxia is the supportive treatment.

Frequent arterial blood gas, oxygen saturation should be monitored and acute respiratory support should be planned in patients. Increase of the intracranial pressure should be prevented by increasing bedhead 30 degrees (Eken C. et al., 2009). Mild cases can be fully recoverable. Even patients with neurological findings due to brain edema were reported to recover within 1-2 weeks of supportive treatment. Mortality and morbidity are proportional to the presence and severity of cardiovascular, pulmonary, and neurological injuries (Lee MC et al., 1991).

Conclusion

Traumatic asphyxia is a rare condition. Prognosis is often due to the duration, severity and localization of the trauma. A rapid and careful approach in cases of traumatic asphyxia provides a reduction in the mortality and morbidity of patients. The emergency department is a clinic where rare but acute and life-threatening cases are seen. Therefore, treatments to prevent increased intracranial pressure, oxygen inhalation therapy, efficient ventilation, intravenous hydration should be started as soon as possible in the similar cases.

Patient.Approval: Approval was received for this study from the patient.
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CASE REPORT

An Inappropriate ADH Syndrome and Lung Cancer Diagnosis in A Patient with Isolated Hyponatremia

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Abstract
Hyponatremia is generally considered to have a plasma sodium concentration less than 135 mEq / L. It is the most common electrolyte abnormality which is important in clinical practice. It can be caused by many etiological factors. Inappropriate antidiuretic hormone syndrome (SIADH) is the one of the causes of normovolemic hyponatremia. On the other hand, SIADH is responsible for 30% of hyponatremias due to cancer. It appears as a paraneoplastic syndrome especially and most offen in the lung carcinoma. The World Health Organization (WHO) reported that lung cancer is 12.9% of all cancers. It may manifest itself with specific symptoms, but may also show only the paraneplastic syndrome. Therefore, it should be kept in mind that the cause of hyponatremia must be determined and may be a symptom of SIADH and lung cancer.
Key words: Hyponatremia, inappropriate antidiuretic hormone syndrome, lung cancer

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Introduction

The main determinant of serum osmolality is the serum sodium concentration. The main factor that causes symptoms and clinical findings in hyponatremia is the decrease in serum osmolality (Adrogué and Madias, 2000). It is called hyponatremia when the serum sodium concentration is below 135 mmol / L. Hyponatremia is the most common electrolyte abnormality, which is important in clinical practice (Upadhyay et al., 2006). The hyponatremes are divided into three groups according to the patient's volume status:

(i) hypovolemic hyponatremia,
(ii) normovolemic hyponatremia, and
(iii) hypervolemic hyponatremia.

This approach has great importance both in the recognition and in the determination of the treatment. Hyponatremic hypovolemia is caused by renal and extrarenal volume losses, whereas hypervolemic hyponatremia is caused by heart failure, cirrhosis, nephrotic syndrome and renal failure. Hypothyroidism, glucocorticoid insufficiency, primer polydipsia, stress (physical or

emotional), medications and inappropriate antidiuretic hormone syndrome (SIADH) can be considered as the causes of normovolemic hyponatremia. Among them, the SIADH has a special importance in terms of its finding as a paraneoplastic syndrome (Ellison and Berl, 2007). The most common malignancy which is seen togehter is the lung cancer.

In this case of a hyponatremia presentation which is frequently seen in elderly patients and frequently emergency recourse done, we aimed to raise awareness on the SIADH detection and lung cancer diagnosis.

Case

A 72-year-old male patient without known systemic disease and drug use was admitted with complaints of emergency fatigue, nausea, vomiting, and impaired balance during walking. He stated that his complaints started by 10 days and increased by the last 5 days. Vital findings and physical examination findings were normal. His laboratory values were glucose 141 mgr/dl, BUN 25 mgr/dl, cre 0,81 mgr/dl, AST 14, ALT 17, Na 111 mEq/l, K 3,5 mEq/l, Ca 8,9 mgr/dl, Hb 11,9 gr/dl, Htc % 34,2, WBC 4900, Plt 184000, CRP 2,5. In the arterial blood gas PH: 7,45, PO2 66,6 mmHG, PCO2 32,1 mmHg, HCO3: 22,1 mEq/l were detected. The patient was hospitalized, initially hydrated and requested routine examinations. The Na level of the patient followed up with 3% NaCl infusions increased to 113, 129 and 134 mEq / lt in 3 days. Liver, kidney, thyroid function tests, ferritin, folate, vitamin B12 levels, lipid parameters were normal, sedimentation was 5 mm / h and HA1c was % 6.7. The urine was normal. There was no characteristic on chest X-ray. Plasma cortisol level 22.09 microgr / dl, ACTH level 29 pgr / dl, Aldosterone level 3.7 ngr /dl were in the normal limits. Abdomen USG was normal, thyroid USG was reported as multinodular goiter. In addition, abdomen and pituitary and brain MRI did not detect any lesion covering the space. The capillary glucose was followed and regulated by diet. No medication was started. He is discharged with hydration and one week after and polyclinic control proposal. The Na level was found 104 mEq / l when the patient came to control after 1 week of walking and talking with impaired, weakness and nausea. He was hospitalized again. Upon of the attenuation of the severe hyponatremia in the short term, despite the recent hydration and hypertonic fluid replacements, without dehydration, use of any medication but with the weight loss; Na excretion was calculated in 24 hours by sighing the inappropriate ADH syndrome. The 24-hour urine volume was 3580 mL, and the urinary Na excretion was 465 mmol / day, which was significantly higher. Plasma osmolality was determined 224 mOsm / kg, as low. As a result of inappropriate ADH syndrome, paraneoplastic syndrome and lung cancer were suspected. On this, patient was taken for the thorax CT. In the right lung central incision, a solid, space-occupying lesion was observed at the intermediate bronchus level with a lobulated contour extending in the middle and lower lobe and measuring 25x36 mm in its widest area. It is noted that a large consolidation area including air bronchograms in the right lung sub-lobe laterobasal segment distal to the mass, and a bronchovascular demarcation, tubular bronchial structures and mild icy plaques are associated with it. In the mediastinal region, ovoid lymph nodes were observed with the largest in prevascular area with 16x8 mm size.

The patient underwent bronchoscopy with the diagnosis of Lung Ca (Figure 1). Pathologic diagnosis was defined as small cell lung carcinoma.

Figure 1. The mass completely covering the bronchial area.

Discussion

Although the definition of hyponatremia varies in different clinical laboratories, it is generally considered to be less than 135 mEq / L. Serum osmolarity should be calculated in the patient with hyponatremia and determined exactly. Symptoms of hyponatremia depend on the degree of hyponatremia and the rate of development. Symptoms are usually seen in the acute hyponatremia and primarily concerns the central nervous system. These symptoms are due to developing brain edema. Here, the migration of extracellular water into the cell due to the resulting hypoosmolality becouse of the depletion of serum sodium concentration plays a role. When the serum sodium concentration falls slowly, the brain cells give off electrolytes and organic acids to the extracellular space with adaptation purpose, thus reducing the risk of brain edema. Symptoms of hyponatremia include nausea, vomiting, muscle cramps, agitation, lethargy, and apathy. Hyponatremia findings include decreased tendon reflexes, hypothermia, pathological reflexes, Cheyne-Stokes respiration, impaired consciousness, and convulsions (Sterns, 2015).

SIADH is the most common cause of normovolemic hyponatremia. Here, the urinary osmolarity is above 100 mOsm / kg and the urine sodium concentration is usually above 40 mEq / L (Anderson et al.,1985). In order to diagnose SIADH, the patient should have normal heart, liver, kidney, adrenal, thyroid and pituitary functions and should not use diuretics. Some criteria have been defined that allow the identification of SIADH.

- The presence of normovolaemic hyponatremia
- Plasma osmolality <275 mOsm / kg
- Urinary osmolality> 100 mOsm / kg
- Urine sodium> 40 mEq / L
- Acid-base and potassium balance are normal
- Hypoüricemia (uric acid <4 mg / dL)
- Adrenal and thyroid functions are normal
- No renal, hepatic, cardiac disease
- Diuretics are not used

SIADH is seen in about 7% among the causes of hyponatremia in hospitalized patients (Reddy and Mooradian, 2009). It is known that it can be a paraneoplastic syndrome mostly due to lung cancer. SIADH is responsible for 30% of hyponatremias due to cancer (Sorenson et al.,1995). Small cell lung carcinoma is the leading of these (Kalemkerian et al., 2013).

Lung cancer is the most common malignancy worldwide and the leading cause of cancer-related deaths. The World Health Organization (WHO) reported that lung cancer in 2012 brought a total of 1.8 million new cases with 12.9% of all cancers (Ferlay et al., 2015). According to the Ministry of Health's 2012 data in our country, it is the most comman cancer type in men and the fifth in women, and it is estimated that about 30,000 new cases are diagnosed each year (Turkish Thoracic Society, 2013).

This case was not different from the common hyponatremia in daily emergency cases. For the first consult in the emergency departement, the patient was elderly and weak and it was appeared to have a low oral intake and dehydration which are the most frequent cause of hyponatremia in the etiology. On the other hand, the patient did not have any of the cough, sputum, fever, sweating, dyspnea complaints. Again, the anamnesis lasted 10 days and did not indicate a significant weight loss. There was no pathologic mass appearance on chest X-ray. However, despite all of this, the absence of a hyponatremia-revealing hypo and hypervolaemia during examinations and follow-ups, the absence of a systemic illness necessitated the consideration of normovolaemic hyponatremia and SIADH. The patient's intense reappearance of hyponatermic at 1 week after the treatment strengthened the suspicion. Thereupon the mass in the lung was detected with thorax tomography.

Conclusion

Hyponatremia should be considered in terms of SIADH, especially in normovolemic situations, although it is the most common electrolyte disorder that develops for many reasons. With keeping in mind that the lung cancer is the most common in worldwide, and its increase in recent years, a paraneoplastic syndrome and lung carcinoma should be remembered in these cases.

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LETTER to EDITOR

Premature Reflection of Type IIa Hyperlipoproteinemia in the Peripheral Arteries

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Abstract

Hyperlipoproteinemia may lead to early development of atherosclerosis especially when present in familial forms. Serum low-density lipoprotein (LDL) cholesterol is known to be the most important form of atherosclerotic particules. Type IIa hyper-lipoproteinemia is one of the most important form of these familial disorders and gives rise to extremely elevated serum LDL cholesterol levels. Beside the cardiovascular mortality risk that the patient carries because of the early development of atherosclerotic lesions in all vascular tree, this clinical entity also manifests itself with accumulation of cholesterol particules on the skin. Herein we report a very early presentation of Type IIa hyperlipoproteinemia with both atherosclerotic lesions in the arteries and lipid deposites on the skin.

Key words: Type IIa hyperlipoproteinemia, atherosclerosis, reflection

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This case was presented as an oral presentation in the "31th National Cardiology Congress with International Partipication, October 22-25, 2015" in Antalya, Turkey

Main text and Results

Hyperlipoproteinemia is a frequently seen disorder of lipid metabolism. It ensues from inability to metabolize the lipids, specifically cholesterol and triglycerides. There are several types of hyperlipoproteinemia. The type depends on the concentration of lipids and which are affected. Type II hyperlipoproteinemia is characterized by an abnormally high plasma β-lipoprotein concentration. It is commonly seen in the absence of any other lipoprotein abnormality. However elevated levels of plasma pre-β-lipoprotein may sometimes accompany this clinical entity. Hence it is advised that the Type II hyper-lipoproteinemia should be subdivided into Type IIa (increased concentration of β-lipoprotein alone) and Type IIb (increased concentrations of β-and pre-β-lipoprotein) (Beaumont JL et al, 1970). Type IIa hyper-lipoproteinemia is characterized by the increased levels of serum low-density lipoprotein

cholesterol (LDL-chol) levels. Absence of chylomicrons in plasma is prominent. Serum triglyceride levels are also normal. It leads to premature coronary artery disease as well as atherosclerosis of entire arterial network. The subjects are generally exposed to atherosclerotic burden in the early fourth decade (Singh and Bittner, 2015). Herein we report a 20 years old male presenting with atherosclerotic disease of both carotid and iliac arteries.

The patient was referred to cardiology polyclinic from primary care physician with swelling on the eyelids and extensor face of the elbow, which were likely to be xanthelesma (Figure 1, 2).

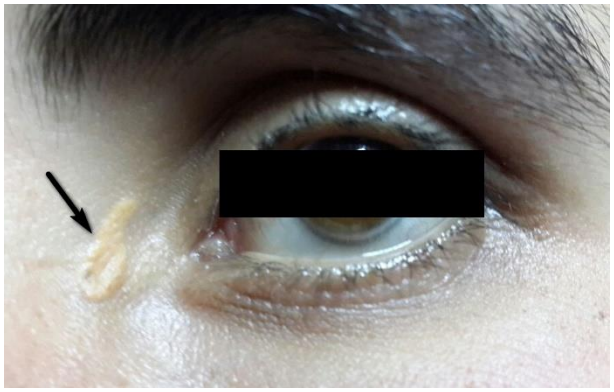

Figure 1. The arrow shows the xanthelesma on the eyelid.

Figure 2. The xanthelesma on the extensor face of the elbow is shown by the arrow.

The patient underwent echocardiographic evaluation following a questionnaire about history of the past years, physical examination of cardiovascular system, sampling of blood and recording of a resting 12-lead electrocardiogram. All the findings were normal except serum lipid profile revealing a LDL-chol level of 447 mg/dl, high-density lipoprotein cholesterol level of 36 mg/dl and total cholesterol level of 499 mg/dl. Serum triglyceride level was normal as 81 mg/dl. The lipid profile was consistent with familial type IIa hyper-lipoproteinemia. Doppler ultrasound evaluation revealed 50% and 40% stenosis in carotid and both iliac arteries respectively (Figure 3, 4).

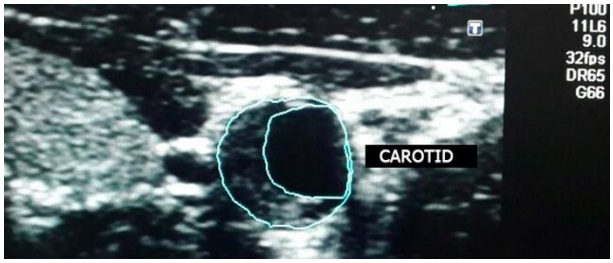

Figure 3. The area represents atherosclerotic lesion in the carotid artery.

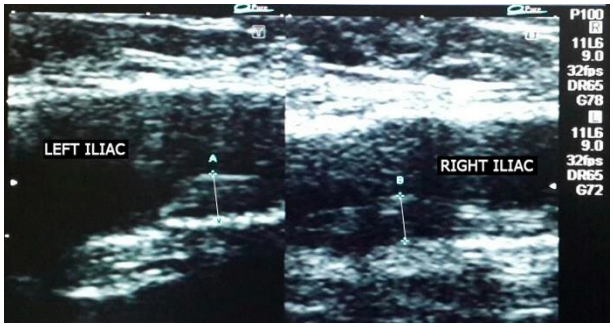

Figure 4. Atherosclerotic lesions in both iliac arteries.

Conclusion

Lying behind the atherosclerotic process is a well-known feature of familial hyper-lipoproteinemia. However, development of atherosclerotic lesions in the peripheral arteries at a so early age is worthy of reporting in terms of emphasizing the crucial role of hyperlipidemia in atherosclerosis, which is subject to speculations even in the scientific area.

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