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Research article
Araştırma Makalesi

Journal of Surgery and Medicine

Comparison of the effects of impaired fasting glucose and impaired glucose tolerance on diabetic development risks on HbA1c levels: A retrospective study

Bozulmuş açlık glukozu ve bozulmuş glukoz toleransının diyabet gelişim riski üzerine etkilerinin HbA1c düzeyleri üzerinden karşılaştırılması: Retrospektif çalışma

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Abstract

Aim: The process between normal glucose metabolism and diabetes is called the prediabetes period. This period is impaired fasting glucose (IFG), impaired glucose tolerance (IGT) or glycosylated hemoglobin A1c (HbA1c) level of 5.7-6.5%. IFG, IGT or IFG+IGT, shows increased risk of developing diabetes. The aim of this study is to compare the risk levels of diabetes development between glucose metabolism disorders.

Methods: Patients who underwent oral glucose tolerance test (OGTT) and whose HbA1c values were measured before and after the test on a quarterly basis and did not have diabetes in 2016, were scanned through the automation system and taken into study. Patients with HbA1c levels between 5.7 and 6.4% were evaluated as pre-diabetic, and an increase in the HbA1c levels in these patients from 5.7% to 6.4% was considered to increase the risk of developing diabetes. Patients were divided into three groups according to the presence of isolated IFG, isolated IGT and IFG + IGT. Patients with IFG were group 1, patients with IGT were group 2, and patients with IFG + IGT were group 3. Correlation analysis was performed between the groups on HbA1c levels.

Analyzes were performed using the SPSS 22.0 program. Mann Whitney U Test was used for descriptive statistical methods as well as for non-normal distribution of measured values. Significance was evaluated at $p < 0.05$.

Results: In the study period, 706 patients who had OGTT in our hospital and who had HbA1c levels before and after OGTT on a quarterly basis were determined. The number of patients in Group 1 was 272; in group 2 was 222 and in group 3 was 212. Compared to the HbaA1c levels of groups, the risk of diabetes development in Group 1 was statistically low compared to group 2 and 3 ($p<0.001$). No statistically significant differences were detected between group 2 and 3 ($p=0.381$).

Conclusions: As a result of our study, patients with isolated IGT and IFG+IGT were found to be significantly higher than patients with an isolated IFG of diabetes development risks. There was no apparent difference between those with an isolated IGT and the IFG+IGT.

Keywords: Prediabetes, Impaired Fasting Glucose, Impaired Glucose Tolerance

Öz

Amaç: Normal glukoz metabolizması ile aşikar diyabet arasındaki süreç prediyabetik dönem olarak adlandırılır. Bu dönem bozulmuş açlık glukozu (BAG), bozulmuş glukoz toleransı (BGT) veya glikozillenmiş hemoglobin A1c (HbA1c) düzeyinin %5,7-%6,5 olmasıdır. BAG, BGT veya BAG+BGT artmış diyabet gelişim riskini gösterir. Bu çalışmanın amacı glukoz metabolizması bozukluklarının diyabet gelişim risk düzeylerini karşılaştırmaktır.

Yöntemler: 2016 yılı içinde oral glukoz tolerans testi (OGTT) yapılan, test öncesi ve sonrası üç aylık dönemde HbA1c değerleri ölçülen ve diyabet tanısı almamış hastalar, otomasyon sistemi üzerinden tarandı ve çalışmaya alındı. HbA1c düzeyi %5,7-6,4 arasında olan hastalar prediyabetik olarak değerlendirildi ve bu hastaların kendi içinde HbA1c düzeylerinin %5,7'den %6,4'e doğru artışı diyabet gelişim riskinde de artış kabul edildi. Çalışma hastaları izole BAG, izole BGT ve BAG+BGT varlığına göre üç gruba ayrıldı. İzole BAG saptanan hastalar grup 1'i, izole BGT saptanan hastalar grup 2'yi ve BAG+BGT saptanan hastalar grup 3'ü oluşturdu. Gruplar arasında HbA1c düzeyleri üzerinden korelasyon analizi yapıldı.

Çalışmada elde edilen bulgular değerlendirilirken istatistiksel analizler için SPSS 22.0 programı kullanıldı. Çalışma verileri değerlendirilirken tanımlayıcı istatistiksel metodların yanı sıra ölçüm değerlerinin normal dağılım göstermeyen karşılaştırmalarında Mann Whitney U Test kullanıldı. Anlamlılık $p<0,05$ düzeylerinde değerlendirildi.

Bulgular: Çalışma döneminde hastanemizde OGTT yapılan ve OGTT öncesi ve sonrası üç aylık dönemde HbA1c düzeyleri bakılan 706 hasta tespit edildi. Grup 1'deki hasta sayısı 272; grup 2'deki hasta sayısı 222, grup 3'deki hasta sayısı 212 olarak saptandı. Grupların HbaA1c düzeyleri karşılaştırıldığında Grup 1'de diyabet gelişim riskinin grup 2 ve 3'e göre istatistiksel olarak anlamlı düzeyde düşük olduğu görüldü ($p<0,001$). Grup 2 ve 3 arasında istatistiksel olarak anlamlı bir farklılık saptanmadı ($p=0,381$).

Sonuç: Çalışmamız sonucunda izole BGT'si ve BAG+BGT'si olan hastaların diyabet gelişim riskleri izole BAG'si olan hastalara göre anlamlı oranda yüksek bulunmuştur. İzole BGT'si olanlarla BAG+BGT'si olanlar arasında ise belirgin bir farklılık saptanmamıştır.

Anahtar Kelimeler: Prediyabet, Bozulmuş Açlık Glukozu, Bozulmuş Glukoz Toleransı

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Introduction

Diabetes mellitus is a health problem that increases day by day because of the incidence and widespread complications around the world. The number of diabetic patients is rapidly increasing, especially due to unhealthy and irregular diet in developed societies, diminished amount of daily physical activity, obesity and increase in elderly population. As of 2015, 193 million have not yet been diagnosed, with a total of approximately 415 million diabetics, and this number is projected to rise to 642 million by 2040 [1].

Diabetes is a chronic metabolic disease that requires continuous medical care in which the organism cannot make good use of carbohydrates, fats and proteins due to insulin deficiency or insulin deficiency defects. Diagnostic criteria for other disorders of diabetes and glucose metabolism are as follows.

Fasting plasma glucose (FPG)>126 mg/dl, plasma glucose>200 mg/dl on the 2nd hour in oral glucose test, randomized PG>200 mg/dl at any time and diabetic symptoms, >6.5% HbA1c levels may be diagnosed as apparent diabetes mellitus. The diagnosis of isolated impaired fasting glucose (IPG) can be made by measuring the FPG at 100-125 mg/dl with the second hour postprandial PG <140 mg/dl. The diagnosis of isolated impaired glucose tolerance (IGT) is FPG<100 mg/dl while second hour postprandial PG is between 140-199 mg/dl. In IFG+IPG FPG is 100-125 mg/dl and second hour postprandial PG is 140-199 mg/dl [2].

IFG and IGT are now considered prediabetes. The International Committee of Experts on Diabetes, HbA1c reported that individuals in the range of 5.7-6.4% (39-46 mmol/mol) were at high risk for diabetes and should be included in protection programs. Studies conducted in various societies have shown that the high risk group identified by HbA1c levels covers people with a higher glucose metabolism disorder than isolated IFG and IGT. Similar studies in the literature also support this opinion [2].

In this study; we aimed to evaluate whether there is any difference in the risk of developing diabetes among these patient groups by looking at HbA1c levels of patients with isolated IFG, isolated IGT and IFG+IGT who did not have diabetes.

Material and methods

A retrospective observational study was planned. The study was made in accordance with the Helsinki decoration. Patients who performed oral glucose tolerance test (OGTT) between 2016–2017 in our hospital were scanned through hospital automation system. Patients who had measured in HbA1c values before and after OGTT three month period and had not diagnosed with diabetes were taken in the study.

Patients with HbA1c levels between 5.7% and 6.4% were prediabetes evaluated and an increase in the HbA1c levels in these patients from 5.7% to 6.4% was considered to increase the risk of developing diabetes. Patients were divided into three groups according to the presence of isolated IFG, isolated IGT and IFG+IGT. Patients with IFG were group 1, patients with IGT were group 2, and patients with IFG+IGT were group 3. Correlation analysis was performed between the groups on HbA1c levels.

Analyzes were performed using the SPSS 22.0 (Statistical Package for the Social Sciences, Power IBM Software) program. When evaluating the study data, the descriptive statistical methods (mean, standard deviation) as well as the comparison of the measured values do not show the normal distribution of the Mann Whitney U Test were used. Significance was evaluated at $p < 0.05$.

Results

In the study period, 706 patients who had OGTT in our hospital and who had HbA1c levels before and after OGTT on a quarterly basis were determined. The number of patients in Group 1 was 272; in group 2 was 222 and in group 3 was 212. The mean HbA1c of the patients in group 1 was 5.84%, 6.03% of patients in group 2, 6.02% of patients in group 3.

Compared to the HbaA1c levels of groups, the risk of diabetes development in patients with IFG was statistically low compared to in patients with IGT and IFG+IGT ($p<0.001$). No statistically significant differences were detected between in patients with IGT and IFG+IGT ($p=0.381$) (Table 1).

Table 1: Comparison of HbA1c levels between groups

Patients with Isolated IFG and Isolated IGT			
	IFG	IGT	p [b]
HbA1c [a]	5.8 (4.8-7.0)	6.1 (5.0-7.8)	<0.001
Patients with Isolated IFG and IFG+IGT			
	IFG	IFG+IGT	p [b]
HbA1c [a]	5.8 (4.8-7.0)	6.0 (4.9-7.8)	<0.001
Patients with Isolated IGT and IFG+IGT			
	IGT	IFG+IGT	p [b]
HbA1c [a]	6.1 (5.0-7.8)	6.0 (4.9-7.8)	0.381

[a] mean (min-max), [b] Mann-Whitney U test

Discussion

As a result of our study, patients with isolated IGT and IFG+IGT were found to be significantly higher than patients with an isolated IFG of diabetes development risks. There was no apparent difference between those with an isolated IGT and the IFG+IGT.

The process between normal glucose metabolism and apparent diabetes is termed as the preterm period. The risk of developing diabetes increased significantly in this period. Cases that have been entered into a prediabetes; IFG, IGT and HbA1c levels are between 5.7% and 6.5% [3].

The IGT was first described in 1979, replacing borderline diabetes. For the first time in 1985, as a class of clinical glucose intolerance, it has taken its place in the World Health Organization (WHO) classification [4,5]. Finally, in 1997 and 1999, WHO and the American Diabetes Association (ADA) described carbohydrate metabolism disorders as one of the developmental processes, describing non-diabetic fasting hyperglycemia as IFG [6,7]. IFG has been described as not being sufficient for the diagnosis of diabetes, even though glucose is above normal glucose levels. This metabolic condition has been

adopted as a transition between normal glucose levels and the IGT. In people with IGT and IFG, HbA1c is usually found at normal levels or very mildly normal [8]. In our study; the HbA1c levels were found to be close to the lower limit in the pre-diabetic range in patients with isolated IFG, while isolated IGT and IFG+IGT were found to be significantly higher in the pre-diabetic range.

Prediabetes is an intermediate table showing that the risk of developing diabetics is high and poses a high risk not only for diabetes also for various other diseases. The IFG and IGT are associated with obesity, dyslipidemia and hypertension. Studies have shown that 5-10% of the pre-diabetic patients have passed the diabetic stage per year, although it varies according to the population characteristics and the prediabetes definition. The annual diabetes incidence for IFG is 6-9%, 4-6% for the IGT and 15-19% in the case of both [9]. In our study, this evaluation was not possible because the patients had no follow-up data. The incidence of diabetes in individuals with IGT and IFG+IGT can be interpreted as higher because the high risk of diabetes development will affect the incidence.

The IFG and the IGT are not equaled in metabolic and they also demonstrate different prevalence characteristics in societies. In different studies, the IGT was observed more frequently than the IFG. In our study, the number of IFG patients was found to be higher than the number of patients with IGT, in contrast to the patients who had OGTT within one year. The fact that our study was made in a limited number of people and only in people with OGTT may have resulted in this outcome. IFG and IGT can be observed separately, and can be observed together. In a study conducted in 2007; it has been observed that IFG and IGT disorders are rarely associated with each other in patients aged 40-74 years who were not previously diagnosed with diabetes [10]. In our study; the incidence of IFG+IGT is low compared to isolated IFG and isolated IGT, but is relatively close. It is not surprising that the incidence of IFG and IGT coincidence is high because we consider that our study experience is only for patients with OGTT and that the expectation of prediabetes and diabetes mellitus is high in these patients.

People in the pre-diabetic stage often advance go on type 2 diabetes, and these patients carry an important risk for various complications, such as in diabetics. When the insulin resistance in the liver and muscle tissue is not met with adequate insulin release from the beta cells of the pancreas, the hyperglycemia table emerges. So; the primary responsibility for the progression of prediabetes to diabetes is a progressive decrease in beta cell function. But; increasing insulin resistance also contributes to the reduction of beta cell backup, as it indirectly increases the need for insulin release from beta cells [11,12]. Therefore, treatments for prediabetes and diabetes should be protect beta cell function and can reduce insulin resistance.

The basis of treatment in pediatric patients should be to prevent development of diabetes, protect beta cells, prevent or delay micro and macrovascular complications. In many clinical trials, it is emphasized that the changes in lifestyle can prevent the progression of preterm diabetes. These lifestyle changes aim mainly; to regulate the nutrition, increase physical activity and gain weight control [13].

Various nutritional styles are known to have health benefits and thought that nutritional style changes can be effective in preventing diabetes growth. Some studies have been conducted to investigate the effect of nutrition on diabetes development. In one of these studies, a diet supplemented with olive oil was proposed for some of the patients and a diet rich in oil seeds was proposed for another group, while the third group was fed on a low-fat diet. After four years of follow-up, it was determined that the number of newly developed diabetes in the first two groups was lower than in the third group. In this study no weight difference was detected between the groups. Although these results suggest that the nutritional style may reduce the risk of diabetes development, there are some limitations that may disrupt the interpretation of the results. Moreover, it is not clear which content of nutrition is beneficial in this study [14,15].

Although an important part of insulin resistance and secretion is associated with genetic factors, it can be significantly changed by environmental and behavioral arrangements. Exercise is also one of them and various studies have shown that exercise can be beneficial in the prevention of diabetes [16]. In a meta-analysis, the risk of developing type-2 diabetes with physical activity has been examined and the mid-level physical activities such as walking in these studies have been compared with sedentary lifestyle. The result of these studies is that the risk of developing diabetes in physically active groups decreases considerably. This result suggests that exercise has a weight-independent effect on glucose metabolism [17]. A prospective study examined the effects of aerobic exercises with weight exercises. Patients; for 18 years, at least 150 minutes a week, they have applied a weight exercise or aerobic exercise. In the study, the patient group with sedentary lifestyle is included. In the group that performs both the weight exercise and the aerobic exercise, a significant decrease in the risk of diabetes development, according to the control group, has been recorded, in patients who combine both exercises, is observed to be the most significant decrease in the risk of diabetes development. This study; primarily has confirmed the positive effects of exercise in reducing the risk of diabetes development, also has shown that both weight exercises and aerobic exercises are effective in this respect [18].

In patients with diabetes, it is well known that permanent weight loss has a positive effect on glycemic control. Similarly in patients with prediabetes diet, exercise and weight loss is shown to prevent progression [19]. One of the most important studies is Finnish Diabetes Prevention study. In this study, patients with an average age of 55, body mass index of around 33 kg/m2 and isolated impaired glucose tolerance were attended. These patients were taken to a weight loss program through diet and exercise. At the end of two year, patients in the weight loss program that average 3.5 kg, the patients in the control group are 0.8 kg lost and at the end of 4 years, the cumulative diabetes incidence of study group was significantly lower than the control group. This finding has shown that the risk of diabetes is reduced by 58% with lifestyle arrangements. In this study, patients who have not developed diabetes have been observed for 3 years and have not been offered a lifestyle

changes in the follow-up period. At the end of this period; in this group of patient's diabetes incidence was still lower than the control group. This work has shown that after the measures have been discontinued, the anti-diabetic effect of lifestyle arrangements has been decreased but continued. In analyses, the most important factor affecting diabetes risk reduction has been observed to be weight loss [20]. In another study proving the effectiveness of lifestyle arrangements, patients with glucose tolerance disorder have been randomized to diet, exercise, diet + exercise and control group and after 6 years of follow-up, the incidence of diabetes was higher in the control group than in all the prevention groups. When patients were evaluated again 17 years after the study, diabetes incidence was still lower compared to those involved in any of the control groups. More importantly, cardiovascular and all-reason mortality in patients in this group has been significantly lower than control [21]. Lifestyle regulation in pre-diabetic patients prevents type 2 diabetes. From this point, both the physical activity and dietary arrangements are effective. These measures have the strongest effect in preventing diabetes if it provides weight loss [22].

In our study, pre-diabetic patients were studied and their risk of developing diabetes was assessed through their HbA1c levels. According to the results, the patients with IFG and IFG+IGT are considered to be more closely monitored than other groups and need to be taken to diet programs for lifestyle change, exercise and weight loss purposes. We think it should be a more stringent approach than patients with IFG.

When evaluating the results of our study, it would be useful to consider the limitations of the number of patients, the deficiency of standardization required for the use of HbA1c as a diagnostic criterion in our country, and the fact that patients cannot participate in the evaluation of other variables in terms of risk of developing diabetes. In terms of diabetes development, the risk of the population to be evaluated with more extensive studies and the appropriate lifestyle models and treatment options must be reviewed.

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Research article
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Risk assessments, pregnancy and birth processes of pregnant women at primary health care center: A retrospective study

Birinci basamakta izlenmiş gebelerin risk değerlendirmeleri, gebelik ve doğum süreçleri: Retrospektif çalışma

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Abstract

Aim: Although many pregnancies and birth processes have passed without any problems, all pregnancies have various risks. The main purpose should be to control risky situations in pregnancy without threatening the health of mother and baby. Our study was carried out in order to investigate the complications related to the risks determined by the risk assessments of women who were followed during pregnancy and puerperants in a family health centre.

Methods: Women who were registered in the family medicine unit and whose pregnancy and puerperium were followed were scanned through the automation system during the study period. During the pregnancy periods, risk factors and time of birth were examined. Patients with any risk factor were considered as risky pregnant and examined whether a pathological condition developed during pregnancy or during the postpartum period.

Results: It was determined that during pregnancy period 10 pregnant women had at least one risk factor of 81 pregnant women whose risk assessments were examined. The distribution of risk factors was as follow; 3 with grand-multiparity story, 3 with preterm delivery, 2 with pregnancy over 35, 2 with Rh incompatibility, 1 with cardiovascular disease, 1 with multiple pregnancy, 1 with preterm labor, and under 18 years of age in 1 pregnant women was determined. It was found statistically significant that the risk of having a risk factor was higher than that of non-risk patients at 38 weeks ($p<0.01$). Among the risk factors, when the patients with preterm delivery and preterm delivery were excluded, it was also found that the preterm delivery risk increased significantly ($p=0.012$).

Conclusions: In pregnancies with risk factors, complications may occur much more than normal pregnancies. Therefore, it is very important for women to communicate with family physicians while planning pregnancy; if their risks are identified and appropriate approach protocols are used to ensure that both the mother and baby survive and maintain a healthy life.

Keywords: Risk, Pregnancy, Early Birth

Öz

Amaç: Birçok gebelik ve doğum süreci sorunsuz yaşansa da tüm gebelikler çeşitli riskler barındırır. Gebelikteki riskli durumlarını, anne ve bebeğin sağlığını tehdit etmeden kontrol altına almak asıl amaç olmalıdır. Çalışmamız bir aile sağlığımerkezinde, gebelik ve lohusalık boyunca takip edilmiş kadınların risk değerlendirmeleri ile tespit edilen risklerine bağlı komplikasyon gelişme durumlarını incelemek amacıyla yapılmıştır.

Yöntem:Aile hekimliği birimimizde kayıtlı kadınlardan çalışma döneminde gebelik ve lohusalık izlemleri yapılmış kişiler otomasyon sistemi üzerinden tarandı. Gebelik dönemlerinde risk varlığı, doğum haftaları incelendi. Herhangi bir risk faktörüne sahip olan gebeler riskli gebe olarak kabul edilip, gebelikte veya lohusalık döneminde patolojik bir durum gelişip gelişmediği incelenmiştir.

Bulgular: Gebelik ve lohusalık takipleri yapılmış 81 kadının risk değerlendirme formları incelendiğinde 10 tanesinin gebelik döneminde en az bir risk faktörü olduğu tespite dildi. Saptanan risk faktörlerinin dağılımı ise şu şekildeydi; akraba evliliği yapmış 3, grandmultiparite öyküsü olan 3, erken doğum öyküsü olan 2, 35 yaş üstü gebelik durumunda olan 2, Rh uygunsuzluğu olan 2, kardiyovasküler hastalığı olan 1, çoğul gebeliği olan 1, erken doğum eylemi olan 1, ve 18 yaş altında olan 1 hasta tespit edilmiştir. Risk faktörü mevcut olan gebelerin, risk olmayanlara göre 38 haftadan erken doğum yapma riskinin daha fazla olduğu istatistiksel olarak anlamlı tespit edilmiştir ($p<0,01$). Risk faktörleri arasından erken doğum öyküsü ve erken doğum eylemleri olan hastalar çıkarılınca yine anlamlı oranda erken doğum riskinin arttığı görülmüştür ($p=0.012$).

Sonuç: Risk faktörü barındıran gebeliklerde normal gebeliklere göre komplikasyon gerçekleşme ihtimali dahafazladır. Bu yüzden kadınların henüz gebelik planlarken aile hekimleriyle iletişim halinde olması, varsa risklerin saptanıp uygun yaklaşım protokolleriyle hem anneadayının hem de bebeğinin hayatta kalması ve sağlıklı bir yaşam sürmesi açısından çok önemlidir.

AnahtarKelimeler: Risk, Gebe, Erken Doğum

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Introduction

Although many pregnancies and birth processes goes well, all pregnancies have a variety of risks. In 15% of pregnancies, a high complication of mortality and morbidity is developed, requiring professional care. Pregnancy, giving birth and complications during the postpartum are the leading causes of mortality and morbidity among women in the reproductive period in developing countries [1].

Every minute in the world; 380 new pregnancy occurs, 110 women are experiencing complications related to pregnancy, 40 pregnancy results in abortion and a pregnant woman dies. 1% of these deaths occur in developed countries, 99% are in developing countries and 90% of these deaths are due to preventable reasons [2]. Maternal mortality rate in Turkey is one hundred thousand live births; 64 in 2002, 28.5 in 2005, while this rate fell to 15.4 in 2012 [3].

It should be the main goal of controlling the risky situation in pregnancy without threatening the health of the mother and baby. Diseases that exist before pregnancy (e.g. cardiovascular diseases, diabetes mellitus) can make pregnancy risky. In addition, pathologies occurring directly in the pregnancy process (such as preeclampsia, eclampsia, bleeding, hypertension) [4].

All pregnancies should be evaluated in terms of the presence or possibility of risk factors. There are risk factors such as diabetes or preterm birth history in some pregnant women who have added them to the high-risk category. In women who do not carry any risk factors, the pregnancy process can start as usual and then risk factors such as membrane rupture or hypertension occurring during pregnancy may develop. These risk factors may develop abruptly during pregnancy. Therefore, it is extremely important to implement the necessary treatment and follow-up protocols in order to detect and manage these risk factors at the time of development [5]. The risk of mortality and morbidity for mothers and infants will be reduced if many pathological conditions are diagnosed early or before the perinatal period.

Risk in terms of pregnancy; it is unlikely to occur under normal conditions, but there are some complications that may arise before pregnancy or develop during pregnancy [6]. In literature, the risk of pregnancy is defined in three groups, "low risk, risky and high-risk pregnancy" [7,8]. Some sources mention only the concept of "risky pregnancy and high-risk pregnancy" [9], while some sources talk about the concept of "low risk pregnancy and high risk pregnancy" [10].

Low-risk pregnancy is defined as laboratory and screening tests are normal pregnancy. For this reason, the majority of pregnancies are considered low risk. Risky pregnancy laboratory tests are normal pregnancies that should be observed more closely. High-risk pregnancy; pregnancies in which the fetus or mother is clearly at risk [7].

There are a variety of measurement tools aimed at determining risk situations in pregnancy. Knox Scorer Form, one of these tools; maternal factors, obstetric history, medical history, and risk factors for pregnancy [6]. The Rapid Risk Assessment Form, another measurement tool, it is a risk assessment form that the Perinatology Society has worked on. Similar to the Ministry of Health Risk Assessment Form [8]. Another tool is "Ministry of Health Risk Assessment Form"; It is standardized by the Ministry of Health and used in all health institutions in our country. This form; obstetric history, current pregnancy and general medical history, and aims to determine the risky situations in the past [11].

This study was conducted in a family health center with primary health care, to investigate the conditions of complications related to the risks determined by the risk assessments of women who have been followed during pregnancy and lactation.

Material and methods

A retrospective descriptive study was planned. The study was conducted by the researchers in accordance with the Helsinki Declaration.

The universe of the study consisted of women registered in our family medicine unit in Baglarbasi Family Health Center in Gaziantep province and who were followed during pregnancy and postpartum period.

During the study period, a part of the pregnancy follow-up of 163 women and 119 women were performed in our family medicine unit. Both pregnancy and lactation follow-up were determined as 81 and the number of people in our family medicine unit was taken to study. The Ministry of Health Risk Assessment forms [12] have been examined retrospectively for those individuals who underwent a general examination and pregnancy monitoring at least 4 times throughout their pregnancy. Later, the Family Medicine Information System Automation program, where these individuals faced with any health problems during pregnancy and postpartum period, were examined. Pregnant women with any risk factors are considered to be risky pregnancy, and a pathological condition is developed during pregnancy or in the period of postpartum. Births before 38th gestational week were considered as premature delivery.

In evaluating the findings obtained in the study, SPSS v20 (IBM, USA) was used for statistical analysis. Descriptive statistics for data analysis, mean and standard deviation for continuous variables, and number and percentage were used for categorical data. The Chi-squared test was used for comparisons. The semantics were evaluated in the confidence range of 95%, and $p<0,05$ was considered meaningful.

Results

During the study period, we examined the risk assessment forms of the 81 women who followed the pregnancy or lactation in our family medicine unit were found to have at least one risk factor in the gestation period. The risk factors of these people differ among each other. There are three distinct risk factors in one of these individuals, each with two risk factors, and the remaining six are determined to have only one risk factor. The risk factors of the patient who had a three risk factor were multiple pregnancies, early birth history and Rh incompatibility. In one of the patients with two Risk factors, 35 years of gestation and grand-multiparity are detected; In the other, early birth history and relative marriage were revealed. In 6 patients with a risk factor, relatives marriage, grand-multiparity, early birth history, cardiovascular disease, Rh

incompatibility and pregnancy were under 18 years. In general, there are nine different risk factors in 10 patients. The distribution of the detected risk factors was as follows; married relatives in 3, the history of grand-multiparity in 3, the early birth story in 2, the case of pregnancy over the age of 35 in 2, Rh incompatibility in 2, cardiovascular disease in 1, multiple pregnancy in 1, the early birth action in 1 and under the age of 18 in 1.

Pregnant women with risk factors have been statistically significant that there is more risk of premature birth than 38 weeks, according to non-risk ($p<0.01$). When patients with early birth history and early birth actions were removed from risk factors, there was still significantly increased risk of premature birth ($p=0.012$, Table 1).

Pregnant women with any risk factors

	With risk factors		With no risk factors		Total		p
	n	%	n	%	n	%	
Premature births	6	7.4	7	8.8	13	16.1	
Births in time	4	4.9	64	78.9	68	83.9	<0.001
Total	10	12.3	71	87.7	81	100	

Premature birth risks and pregnancies with any risk factor other than preterm delivery

Premature births	3	3.8	7	8.98	10	12.8	
Births in time	4	5.6	64	82.04	68	87.2	0.018
Total	7	8.9	71	91.02	78	100	

Table 1: Preterm delivery status of pregnant women according to risk factor

Discussion

35% of pregnancies on 2008, 39% of pregnancies on 2003, 40.2% of pregnancies on 1998 in any risk category, according to Turkey's Population and Health Survey (TNSA). TNSA's risk categories in pregnancy; Maternal age (aged under 18 or 34 years of age) constitutes the birth range (more than 2 years of gestation) and birth count (more than 3 birth) [13-15]. In our study, the presence of at least one risk factor was identified in 10 of the 81 pregnants (12%).

Many factors have been described in the etiology of preterm birth. Especially the diseases belonging to the mother, the problems of perinatal period, socioeconomic level, infections, etc. [16-18]. Approximately 45% of premature labors are due to unknown causes, 30% of them are due to premature rupture of membranes and 20-25% of them are due to other pregnancy conditions. In the beginning of obstetric problems, there are diseases of fetuses and mothers. The main diseases of the mother; uterocervical structural disorders, ablatio placentae, amnion is the scarcity of fluid, hypertension, diabetes, intrauterine infections. The reasons for the fetus are major congenital disorders, chromosomal anomalies, multiple pregnancies [19]. In our study, the risk factors of premature birth pregnancies are multiple pregnancy, early birth history, Rh incompatibility, relative marriage, pregnancy above 35 years, grand-multiparity and cardiovascular disease in the mother (atrial and ventricular septal defect).

In premature infants, according to the term group, the risk of early sepsis increased by seven times (preterm 8%, term 1.2%) was reported. In another study comparing early membrane rupture (EMR) or non-preterm preterm, the early sepsis was found to be 2% in the control group, 5.2% in the preterm of EMR [20]. Therefore, it is very important to minimize the possibility of pregnant preterm birth.

Hypertensive diseases, especially preeclampsia, affect maternal morbidity and mortality. The fetus increases mortality of asphyxia as a result of utero-placental insufficiency and abruptio placentae. Hypertension, proteinuria and uric acid elevation are other factors that increase fetal mortality [21]. In our study, pregnant women with preeclampsia or arthroplasia are not included in the risk factor. However, in a study examined by the literature, the rate of pregnant women with preeclampsia was 26.8% [9].

Diabetes Mellitus (DM) is important for perinatal risk factors, especially in uncontrolled type 1 DM due to vascular disease controlled by DM type 1, the risk of congenital anomaly is 4-10 times, and neonatal mortality is reported to be 15 times higher [22]. In another study, perinatal mortality in uncontrolled diabetes was reported as 31-38/1000 live Birth [23]. In patients with diabetic vascular disease, the risk of intra-uterine growth retardation (IUGR) is high. The incidence of congenital abnormalities in diabetic mothers infants is 5-10%, neural tube defects, congenital heart disease, especially large artery transposition, ventricular septal defect (VSD) is frequent [9]. In this study, the high rate of preeclampsia is attributed to the fact that the perinatology unit has been observed in pregnants. In our study, the fact that many patients were left out of work due to the retrospective of the data, the first digit to be served to the patient who did not have a preeclampsia and diabetes may explain that the patient is not found.

In a study conducted for risky pregnancy in 2010, the incidence of total multiple pregnancies was found to be 10.6% [9]. In our study, the rate of multiple pregnancies was found 10%.

Due to antenatal monitoring, neonatal morbidity and mortality were reported to decrease [24]. The main three different healthcare professionals perform antenatal monitoring and obstetric care: female diseases and birth physicians, family physicians, nurses/midwives [25]. In the family health centers, two of them are already in position. When the birth week falls, the baby's problems are increasing, early and late morbidity increases [9]. It is very important for women to be in contact with family physicians while they are planning a pregnancy, if any risks are detected and the appropriate approach protocols, both the maternal candidate and the baby survive and a healthy life.

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Research article
Araştırma makalesi

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Distribution of microorganisms and antibiotic resistance in children with urinary tract infections: Retrospective case series

Çocuklarda idrar yolu enfeksiyonlarında mikroorganizmaların dağılımı ve antibiyotik direnci değerlendirmesi; Retrospektif vaka serisi

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Abstract

Aim: Urinary tract infection is one of the most common serious bacterial infections in children. Due to regional differences and past infections, the use of antibiotics has problems such as variability in microorganisms and antibiotic susceptibility. In this study, we aimed to determine the microorganisms detected in urinary tract infections in children and their antibiotic resistance status.

Methods: A retrospective observational study was planned. Demographic data, urine microscopy and urine culture results of patients who were hospitalized with urinary tract infection diagnosis in our pediatric clinic at hospital were recorded retrospectively through hospital automation system. The first culture results of the patients were used in the evaluation of the data.

Results: In the study group of 112 patients, Escherichia coli (E. coli) and Klebsiella were the most identified microorganisms in patients with urinary culture. Under 2 years old, Klebsiella was more frequent, and at 2 years of age there was a noticeable increase in the frequency of E. coli. The most common resistance of both microorganisms was found to be ampicillin.

Conclusion: Regional infectious agents and antibiotic resistance should be revised at regular intervals, appropriate empiric therapy should be considered. Thus, is predicted that the chance of success in treatment will increase and the speed of resistance development will decrease.

Keywords: Antibiotic resistance, Urinary culture, Urinary tract infection

Öz

Amaç:İdrar yolu enfeksiyonu çocuklarda sık görülen ciddi bakteriyel enfeksiyonların başında gelir. Bölgesel farklılıklar ve geçirilmiş enfeksiyonlar nedeniyle antibiyotik kullanımı beraberinde mikroorganizmalarda ve antibiyotik duyarlılığında değişkenlikler gibi sorunlar taşımaktadır. Bu çalışmada çocuklarda idrar yolu enfeksiyonlarında saptanan mikroorganizmaların ve bunların antibiyotik direnç durumlarının belirlenmesi amaçlanmıştır.

Gereç ve yöntem:Retrospektif gözlemsel bir çalışma planlandı. Hastanemiz çocuk kliniğinde 2013 yılında idrar yolu enfeksiyonu tanısı ile yatarak tedavi gören hastaların demografik verileri, idrar mikroskopileri ve idrar kültür sonuçları, retrospektif olarak hastane otomasyon sistemi üzerinden taranarak kayıt altına alındı. Verilerin değerlendirilmesinde hastaların ilk kültür sonuçları kullanıldı.

Bulgular:112 hastadan oluşan çalışma grubunda, idrar kültüründe üreme olan hastalarda en sık tespit edilen mikroorganizmalar Escherichia coli (E. coli) ve Klebsiella oldu. 2 yaş altında Klebsiella daha sık görülürken 2 yaş üstünde belirgin oranda E-coli sıklığı göze çarpmaktaydı. Her iki mikroorganizmanın da en sık direnç geliştirdiği antibiyotiğin ise ampisilin olduğu tespit edildi.

Sonuç:Bölgesel enfeksiyon etkenleri ve antibiyotik dirençleri belli aralıklarla gözden geçirilmeli, uygun ampirik tedaviler değerlendirilmelidir. Böylece tedavide başarı şansının artacağı ve direnç gelişim hızının azalacağı ön görülmektedir.

Anahtar kelimeler: Antibiyotik Direnci, İdrar Kültürü, İdrar Yolu Enfeksiyonu

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Introduction

Urinary tract infections (UTI) are very important because of being second most common infectious disease in children. Incidence is reported as 3-28/1000 in girls and 1.5-7/1000 in males [1]. UTI in childhood is a significant risk for the development of hypertension and renal failure in the advanced periods [2]. In Turkey, chronic renal failure due to recurrent UTI still plays an important role [3]. Especially, first infectious attack of under 2 years old, increases the incidence of scar in every new infection. The aim of the treatment is to prevent damage of the kidney parenchyma. For this reason, early diagnosis and correct treatment of UTI in children is very important [4].

The most reliable method we use in the diagnosis is the urine culture taken in sterile environment. But empirical antibiotic therapy may be required based on clinical diagnosis, especially in country-sides and primary care outpatient clinics when urine cultures cannot be performed [5-7]. The most important factors to consider in empirical treatment are the choice of the most appropriate antibiotic against the most common causes seen at UTI the most important issue at this stage is emerging antibiotic resistance. The widespread and inappropriate use of antibiotics also plays an important role for the increase of this resistance. Most of the studies so far observe that the frequency *Escherichia coli* (*E. coli*), the Gram (-) bacteria in UTI drawing attention at the first line [8]. The high rate of recurrence as well as frequent increases the importance of the treatment of the disease [9]. In this study, we aimed to determine the microorganisms that cause the most common childhood UTI and to determine the resistance they developed against antibiotics.

Material and methods

121 cases have been diagnosed as inpatient with the diagnosis of urinary tract infection in 2013 years at the pediatric clinic of the local tertiary hospital. nine cases of missing data were excluded from the study and 112 cases were enrolled. Demographic data of patients, urine microscopy, urine culture results and antibiotic results were retrospectively scanned through the hospital automation system. The first cultural results of the patients were used in the evaluation of the data. Predisposing causes of the underlying UTI were not considered, and such patients were included in the study.

Fisher's exact test was used for descriptive statistics and comparisons in the analysis of the data obtained in the study. It was statistically significant that the p value was less than 0.05.

Results

During the study period, after 9 cases have missing data were excluded from the study, study group was created with 112 cases. 75 (41.6%) of the cases were female, 37 (33.1%) were male and the average age was 2.32±3.37. In total 68 cases' urine cultures, microbial growth was observed. Frequently detected microorganisms were *E. coli* % 41.1 (n:45) and *Klebsiella* % 26.4 (n:18). Other factors *were Enterobacter*(n:2),

Pseudomonas (n:2), *Candida* (n:1). In patients under two years of age, *E. coli* was detected at the rate of 57% (n:28) and *Klebsiella* was detected at a rate of 34% (n:17). In patients, over two years of age, these rates were 89% (n:17) and 5% (n:1). After statistical evaluation, *Klebsiella* was found more frequently in patients younger than two years old and *E. coli* was found more frequently in patients older than two years old (p=0.014, p=0.011). When the antibiograms were evaluated, the antibiotic resistance rate of *E. coli* was 64.4% for ampicillin, 46.6% for trimethoprim-sulfomethoxazole and 28.8% for amoxicillin-clavulanate. The antibiotic resistance rate of *Klebsiella* was 66.6% for ampicillin, 33.3% for amoxicillin-clavulanate and 33.3% for nitrofurantoin. No resistance was detected to the selected *E. coli* and *Klebsiella* cases in which observed the antibiotics meropenem, imipenem and amikasin.

Discussion

UTI, especially in early childhood, if not treated with appropriate antibiotics, can lead to serious problems such as hypertension and renal failure in the coming period. In this sense, UTI still remains a very important health problem in children [10]. In our study, *E. coli* was detected at the rate of %66.1 as the most frequent UTI in children. Many studies on this subject also support our study [11-13]. The second most common cause was *Klebsiella* (26.4%). Although many publications in the literature supported this finding, *Enterococcus* and coagulation negative staphylococci were seen more frequently than *Klebsiella*, as the second most frequent factor in a study conducted by Güneş et al [14]. Following *E. coli* and *Klebsiella*, *Proteus* was frequently seen in the study conducted by Güner et al. [15]. However, in our study, Proteus was not observed, *E. coli* and *Klebsiella* were followed by *Enterobacteriacea*, *Pseudomanas* and *Candida*, respectively. In addition, during the statistical evaluation of our study, it was determined that the incidence of *Klebsiella* in children younger than 2 years old is higher than the children older than 2 years old even though *E. coli* is still the most common factor in children under 2 years old.

Although the most frequent factors in UTI are *E. coli* and there are numerous effective antibiotic groups that can be used against *E. coli*, inveteracy, recurrence or renal damage could not be completely eliminated in this infection. This is due to a variety of factors belonging to the host and microorganism, as well as the resistance to antibiotics [16-18]. The rate of ampicillin resistance of *E. coli*, which is the most common factor in the evaluation of antibiograms, is 64.4%. This is followed by trimethoprim-sulfomethoxazole with 46.6% and amoxycillin-clavulanate with 28.8%. In another study by Ekim et al. [19], the first two antibiotics developed resistance were found to be compatible with our findings, and also tobramycin, amikacin, cefixime and ceftriaxone resistances are detected at important rates. In our study, we see that the second most frequent factor, *Klebsiella* develop maximum resistance to the ampicillin with the ratio % 66.6. This was followed by amoxicillin-clavulanate with 33.3% and nitrofurantoin with the ratio 33.3%. However, both factors have not been detected resistance against the amikacin in our study.

Especially due to sociocultural conditions, the patients who treated without urinary culture cannot be followed up in primary health care centers. This situation increases the importance of selecting sensitive antibiotics in empirical

treatment. In certain periods, it is important to re-evaluate these agents and resistance developments, to update treatments and to apply the right treatment. For example, in a large-scale and comparative study conducted by Cetin et al. in 2006, attention was paid to the increased resistance to trimethoprim-sulfametaxazole, one of the commonly used agents, emphasizing that this agent should not be used in empirical therapy [20].

The data obtained in our study supports the literature information. In addition, antibiotics, such as meropenem, imipenem, which have not yet been detected for resistance, have been looked at in selected cases. There was no resistance to these antibiotics in *E. coli* and *Klebsiella* antibiograms. This finding is important and gratifying because it expresses that we still have strong weapons in the treatment of UTI that are important in children. Furthermore, avoiding the inappropriate use of these antibiotics is another interpretation that should be evaluated to prevent resistance development.

Although the importance of patient awareness about the use of antibiotics has recently been emphasized, the right choice of antibiotics by physicians in appropriate infections is particularly important in infections requiring empirical treatment, especially like in children with UTI. Our study aims to show guidance and update the current information in this election. The treatment scheme should be shaped according to the most frequent factors of the disease and the drugs susceptible to this effect.

It has also been observed in our study that *E. coli* and *Klebsiella* are still the most common causes of childhood UTI, ampicillin and trimethoprim-sulfamethoxazole resistance of these agents are high. Therefore, these two agents should not be preferred in the empirical treatment of UTI.

Also, given the potential complications of the disease, the antibiotic is an important helper because it still retains the importance of sensitivity in the determination. Therefore, after empirical treatment, if possible, effective treatment with urine culture and antibiogram should be determined and suitable antibiotic usage should be provided. If the necessary laboratory is not possible, the most appropriate empirical treatment should be determined, followed by importance.

As a result; when considering the above-mentioned situations, the selection of empirical treatments and the use of prophylactic antibiotics should be reevaluated. Urinary infections should be monitored with urine cultures if possible, and should be given direction with urine cultures in the treatment and prophylaxis. In cases where this is not possible, the most accurate treatment and follow-up plan should be determined with current literature information.

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Research article
Araştırma makalesi

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The frequency and reasons for the use of analgesic drugs in patients aged 65 years or older; an experience of family medicine unit

65 yaş ve üstü hastaların analjezik ilaç kullanım sıklığı ve nedenleri; bir aile hekimliği birimi deneyimi

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Abstract

Aim: The elderly population in Turkey is increasing. One of the most common health problems among the elderly population, which increases day by day, is pain. The use of analgesics due to pain is seen at very high levels and the use of analgesics in the prescription is increasing. In this study, we aimed to determine the frequency and causes of drug use among elderly patients who applied to our unit of family medicine and used regular pain relievers.

Methods: Our study was done by retrospectively scanning the files of 65 years old and over individuals who applied for Sivas Ulas Family Health Centre for any reason. The number of patients aged 65 years and over registered to the family health centre is 286. 43 individuals who regularly used NSAID were included in the study.

Results: Forty-three patients (15%) who used regular analgesic medication were present in our polyclinic admission for any reason. Participants were using analgesic medication due to diffuse muscle and skeletal pain in 48.8% (n=21), gonarthrosis in 48.8% (n=21) and arthritis in 2.3% (n=1). The analgesic drug was using 32.6% (n=14) frequently paracetamol.

Conclusion: As a result, the use of analgesics is as commonplace in our country as it is in the world. Drug use should be monitored regularly, especially in elderly patients, as serious side effects associated with analgesic use may occur.

Keywords: Geriatrics, Analgesics, Family Practice

Öz

Amaç: Ülkemizde yaşlı nüfusu giderek artmaktadır. Her geçengün artış gösteren yaşlı nüfus arasında en yaygın görülen sağlık sorunlarından birisi de ağrıdır. Ağrılar nedeniyle analjeziklerin kullanımı çok yüksek seviyelerde görülmektedir ve reçetesi analjezik kullanımı artmaktadır. Bu çalışmamızda aile hekimliği birimimize başvuran ve düzenli ağrı kesici kullanan yaşlı hastaların ilaç kullanım sıklığını ve nedenlerini belirlemeyi amaçladık.

Yöntemler: Çalışmamız Sivas Ulaş Aile Sağlığı Merkezi'ne herhangi bir nedenle başvuran 65 yaş ve üzeri bireylerin dosyaları retrospektif olarak taranarak yapıldı. Aile sağlığı merkezimize kayıtlı 65 yaş ve üzeri hasta sayısı 286'dır. Çalışmamıza düzenli olarak NSAİİ kullanan 43 birey alınmıştır.

Bulgular: Herhangi bir nedenle polikliniğimize başvuruda bulunan ve düzenli analjezik ilaç kullanan 43 kişi (%15) bulunmaktaydı. Katılımcıların %48,8'i (n=21) yaygın kas ve iskelet ağrısı, %48,8'i (n=21) gonartroz ve %2,3'ü (n=1) artrit nedeniyle analjezik ilaç kullanmaktaydı. Kullanılan analjezik ilaç%32,6 (n=14) sıklıkta parasetamol idi.

Sonuç: Sonuç olarak analjezik kullanımı dünyada olduğu kadar ülkemizde de yaygın olan bir durumdur. Özellikle yaşlı bireylerde analjezik kullanımına bağlı ciddi yan etkiler ortaya çıkarabileceğinden dolayı ilaç kullanımının düzenli olarak takip edilmesi gereklidir.

Anahtar kelimeler: Geriatri, Analjezikler, Aile Hekimliği

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Etik Kurul Onayı: Çalışmamız retrospektif olması nedeniyle etik kurul onayı alınmamıştır.

Informed Consent: Informed consent was not received because the study design was retrospective.
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Introduction

Senility is a life period in which many pathologies and their symptoms are included. With an increase in average lifespan, the elderly population rate is increasing in communities. As in all over the world, the elderly population is growing increasingly in Turkey. The population rate of 65 years and above, which was 4.3% in the general census in 1990, rise to 8% in 2014 in Turkey. In 2050, it is predicted that the proportion of the population aged 65 and over will reach 17.6% [1,2].

Pain affects people of all ages. The prevalence of pain is approximately 50% in elderly people and is gradually increasing. Musculoskeletal system diseases are one of the most important causes of chronic pain that disturb life quality in the geriatric period [3]. The most important problems encountered in the use of drugs used in the diseases of the musculoskeletal system are the obstacles to ensuring effective pain control in the elderly. Studies show that the incidence of pain in the elderly in the United States is between 25-50% and in nursing homes this rate reaches up to 70% [4]. Nevertheless, the American Geriatrics Association has determined that 25% of the elderly are not getting any treatment for pain [5]. In a multi-centric study in Turkey, 64,7% of the elderly were found to suffer from chronic pain [6].

On the other hand, elderly people use widespread inappropriate analgesics. American Geriatrics Association recommends starting low doses of treatment and increase doses when needed and avoid polypharmacy in the guidelines for chronic pain treatment in the elderly [7]. However, a study conducted in the United States has shown that about 40% of people aged 65 years and over have been prescribed one or more non-steroidal anti-inflammatory drugs (NSAIDs) per year [8]. Most of the patients with chronic pain were observed to use two or more of the analgesic drugs [9].

Turkish Medicines and Medical Devices Agency (TMMDA), Prescription Information System According to the data of 2014, a total of 47,307,662 prescriptions were written for elderly patients. 9,603,348 prescriptions containing non-steroidal anti-inflammatory and anti-rheumatic drugs (M01A) were prescribed by family physicians and 3,353,726 prescriptions were issued by specialist physicians for the 65 years and older patients [10].

NSAIDs exhibit their effects by preventing the production of various prostaglandins through inhibition of cyclooxygenase (COX) enzymes [2]. NSAIDs are often used in inflammation with acute and chronic pain. Inhibiting the synthesis of prostaglandins, which have important effects on glomerular and tubular functions, lead to major complications such as hyperkalemia, hyponatremia, edema, hypertension, acute renal failure, acute interstitial nephritis and analgesic nephropathy [11].

In this study, we aimed to determine the frequency of use of the drug and the factors affecting it in patients aged 65 years and older admitted to our family medicine unit.

Material and methods

The form of the research, where it is made, sample selection.

This research was planned as a descriptive, cross-sectional analytical study. The ethical committee approval was not received because the patient data was scanned retrospectively in our study. This study was done retrospectively by scanning the files of individuals aged 65 years and over for any reason to Sivas Ulaş Family Health Centre. The frequency of use of drugs, the drugs they use, and the frequency of use are constantly being questioned by patients who visit our clinic. The number of patients aged 65 years and over registered to the family health center is 286. 43 individuals who regularly used NSAID were included in the study.

For the statistical analyzes, SPSS (Statistical Package for Social Sciences) for Windows 20.00 program was used. Descriptive statistics for continuous variables are summarized as mean and standard deviation, and descriptive statistics for categorical data are tabulated as frequency and percentage. Chi-square test was used for comparison of categorical data. The results were evaluated in a confidence interval of 95% and a significance level of $p < 0.05$.

Results

51% of the 286 individuals enrolled in the Family medicine unit 65 years and older were female (n=146), 49% of them were male (n=140) and the mean age was 73.8±7.08. There were 43 people (15%) who applied to our outpatient clinic for any reason and were using a regular drug-intensive medication. 36.1% of the study was female (n=25), 26.0% male (n=18), mean age 75.7±6.81% 39.0 of them were married and 23.1% of them divorced or widowed.

Participants were using analgesic medication due to diffuse muscle and skeletal pain in 48.8% (n=21), gonarthrosis in 48.8% (n=21) and arthritis in 2.3% (n=1). The analgesic medications used were 32.6% (n=14) paracetamol, 18.6% (n=8) diclofenac potassium, 14.0% (n=6) etodolac, 11.6% (n=5), dexketoprofen trometamol and 4.7% (n=2) ibuprofen, meloxicam 4.7% (n=2), etofenamate 2.3% (n=1), naproxen sodium 2.3% (n=1) ketoprofen 2.3% n=1) flurbiprofen, and 2.3% (n=1) indomethacin. Participants were divided into ages 65-69, ages 70-74, ages 75-79, ages 80-84 and ages 85 and over.Two patients (25%) of 8 patients (18.6%) between 65-69 years of age were using paracetamol, diclofenac potassium and etodolac. Three patients (21.4%) were using paracetamol and dexketoprofen trometamol in 14 patients (32.6%) between 70-74 years of age. Five (50.0%) of 10 participants (23.3%) between 75-76 years of age were using paracetamol. 8 (18.6%) of 80-84 year olds (37.5%) were using diclofenac potassium. 85 years of age and over 3 participants (7.0%) were all using paracetamol.

Women used 36% (n=9) frequently paracetamol, 12.0% (n=3) frequently used diclofenac potassium and 12.0% (n=3) frequently used dexketoprofen trometamol; 27.8% (n=5) frequently used paracetamol, 27.8% (n=5) frequently used diclofenac potassium and 22.4% (n=4) etodolac in men.

48.0% (n=12) of the women were using analgesic due to widespread muscle and joint pain, 48.0% (n=12) of them were using analgesic due to gonarthrosis and 4.0% (n=1) of them were using due to arthritis. 50.0% (n=9) of men were using analgesics for widespread muscle and joint pain and the other half were using analgesics due to gonarthrosis.

Discussion

The population in the world is the oldest population showing the fastest increase. In Turkey, the elderly population (65 years and above) is estimated to be 8% in 2014, whereas population projections will rise to 10.2% in 2023, 20.8% in 2050 and 27.7% in 2075 [1]. One of the most common health problems among the elderly population, which is increasing day by day, is pain [12].

In our study, when analyzing the analgesics of individuals aged 65 years and over people who were using regular analgesic medication, paracetamol was used most frequently in 32.6% of cases. When the analgesic drugs were classified, participants mostly used NSAIDs at a frequency of 67.4%. In Balbaloğlu's study, the use of NSAID and paracetamol was the most common use of analgesics over 65 years of age, whereas the use of NSAIDs alone was the second most common [13].

In our study, 15% of the population in our family medicine unit were taking analgesics regularly on a daily basis. Bıyık et al. found the analgesic use rate of the elderly individuals was 42.9%, Güler et al. found that this ratio is 90.6% [14,15]. In a different study, elderly people who use analgesics were been reviewed and 16% of participants had non-narcotic analgesics, 32% of them had poor opioids, 26% of them had morphine or derivative drugs, and 27% of them had adjuvant drugs [16]. In Hwang et al.'s study it is reported that 80% of elderly individuals with severe pain use opioids [17]. The presence of low analgesic use in our study may be thought of as patients not taking analgesics without prescription or not telling that they use analgesics.

48.8% (n=21) of the participants were using analgesic due to widespread muscle and joint pain, 48.8% (n=21) of them were using analgesic due to gonarthrosis and 2.3% (n=1) of them were using due to arthritis. It was determined that elderly individuals experienced 64.6% knee pain and 58.5% headache at the highest rate [18]. In another study, it was reported that in elderly people, joint pain, chronic pain in legs and feet, prevalence of joint pain was 2 times higher in younger than 65 years old, and foot and leg pain frequency increased by increasing age [19]. In different studies, it was found that 74.2-78.2% of the pain seen in the elderly was joint pain and 50.5% of the elderly experienced widespread pain [18,20].

As a result, the use of analgesics is as common in Turkey as it is in the world. Drug use should be monitored regularly, especially in elderly people, as it can lead to serious side effects associated with the use of analgesics. Stepwise pain treatment should be widespread in analgesic treatment. In the elderly, more attention should be paid to prescribing analgesic drugs.

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Journal of Surgery and Medicine

Ruptured heterotopic pregnancy: A case report

Rüptüre heterotopik gebelik: Olgu sunumu

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Abstract

Ectopic pregnancy is defined as a condition in which the gestational sac is located outside the uterine cavity. And also Heterotopic pregnancy is the addition of at least one extra-uterine pregnancy to normal pregnancy. This is more common in patients with assisted reproductive techniques and ovulation induction. Today, with the increasing use of assisted reproductive techniques, the importance of primary care services has become increasingly important and must be kept in mind. We report a case of intrauterine normal pregnancy was accompanied by ruptured tubal pregnancy.

Keywords: Pregnancy, Heterotopic Pregnancy

Öz

Ektopik gebelik gestasyonel kesenin uterin kavitenin dışına yerleştiği durum olarak tanımlanır. Heterotopik gebelik ise normal gebeliğe ilaveten en az bir ekstrauterin gebeliğin olmasıdır. Bu durum, yardımcı üreme teknikleri ve ovülasyon indüksiyonunun kullanıldığı hastalarda daha sık görülür. Günümüzde yardımcı üreme tekniklerinin giderek daha fazla kullanılmaya başlanmasıyla, tanı aşamasında ki zorluklar nedeniyle birinci basamak sağlık hizmetlerinde de önemi artan ve akılda tutulması gereken bir durum haline gelmiştir. Olgumuzda intrauterin normal gebeliğe rüptüre tubal gebelik eşlik etmekteydi.

Anahtar Kelimler: Geblik, Heterotopik Gebelik

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Introduction

Heterotopic pregnancy is the addition of at least one extra-uterine pregnancy to normal pregnancy [1]. And it is more common in patients with assisted reproductive techniques and ovulation induction [2].

As a result of the increasingly widespread use of assisted reproductive techniques; it may cause serious complications in patients with increased incidence of heterotopic pregnancy. The importance of clinical and ultrasonographic evaluation of pelvic and adnexa structures is great; especially in the follow-up of pregnancies where assisted reproductive techniques are used. It should be ensured that physicians who follow the pregnancy are always careful about this [3].

One of the most important responsibilities of the family physicians is follow up the pregnancy process. In terms of continuity in patient follow-up and preventive medicine; The awareness of the patients who are at risk is the primary duties of the family physicians [4].

In this study; A case of heterotopic pregnancy after ovulation induction will be presented. The aim of our presentation, to take attention to the increasing incidence of heterotopic pregnancy, remind of the difficulties and complications of diagnosis and to emphasize the importance for family medicine in addition.

Case Presentation

A thirty-four year old woman who told she had been pregnant for eight weeks admitted to our hospital with complaints of vaginal bleeding and abdominal pain. In the gynecological history of the patient, it was learned that the patient had been married for eight years, she had vaginismus treatment in the first year of the marriage, and the condom was preferred as a contraceptive method until one year before. It was learned that hysteroscopy and vaginal polypectomy were performed because she could not conceive 6 months after she and her husband decided to have a child. Then patient received to ovulation induction, clomiphene citrate and chorionic gonadotropin alpha therapy. She said that two embryo transfers were made in vitro fertilization (IVF) 7 weeks ago because she did not conceive again.

The day before the patient applied to our hospital, she had mild abdominal pain and she was diagnosed with overdose hyper stimulation syndrome at another hospital. She said that she applied to our hospital due to the increasing pain.

The overall condition was moderate and anxious in appearance of the patient. Blood pressure was 110/70 mmHg, pulse was 97/min and fever was 36.7°C. In the gynecological examination of the patient who was identified as involuntary defender in his abdomen, vulva vagina was in a natural view. Extra-uterine had minimal vaginal bleeding, the chollum movements were painful and the size of the uterus could not be evaluated due to severe pain. Transabdominal ultrasonography examination revealed two fetuses followed by fetal heart rate (FHR) compatible with 7 weeks and 4 days according to the head-butt distance (CRL) measured in uterus and right tuba. In transvaginal ultrasonography (TVUS), 2 fetuses' CRL measurements followed by FHR compatible with 8 weeks in the uterine cavity and 7 weeks+2 days in the right salpinx. Both ovaries were in multi-cystic appearance in harmony with hyper stimulation. Widespread fluid was detected in peri-splenic and peri-hepatic areas and douglas. In laboratory tests; hemoglobin was 9.9 g/dl, hematocrit was 28.9%, leukocyte was 14200/mm3 and platelet count was 220000/mm3.

The patient underwent operation with the diagnosis of heterotopic rupture tubal pregnancy. Common coagulation was observed in the abdominal laparoscope. Following the aspiration of coagulation, 3x4 cm ruptured ectopic pregnancy material was detected. Patient had a right-hand salpingectomy. The left tuba and the ovaries were naturally observed. Her blood pressure was 90/60, pulse was 98 in postoperative follow-up. Blood transfusion was supported due to the monitoring of the patient's hemoglobin values as 5.4 g/dl. When the hemoglobin value was reached 9 g/dl and the vitals were stable, the uterine pregnancy was evaluated normally, the patient was discharged.

Discussion

While the natural incidence of heterotopic pregnancy was 1/30000, it increased to 1/7000 after assisted reproductive techniques. In ovulation induction patients, it increased to 0.5-1% [5-7]. The diagnosis of heterotopic pregnancies is made between 70% and 5-8 weeks [8]. In this case, it is diagnosed in this time period. Early diagnosis of heterotopic pregnancy is difficult due to ambiguous symptoms. The findings of enlarged uterus, abdominal pain, adnexal mass and peritoneal irritation are the four general manifestations in the literature [9]. In early diagnosis, transvaginal ultrasound is a valuable diagnostic method. However, the sensitivity of 5-6 weeks in pregnancies is only 56% [10]. While routine pregnancy detection and follow-up β-hCG measurement is useful in the diagnosis of ectopic pregnancy, in heterotopic pregnancy; because of concurrent intrauterine pregnancy it is not useful. Ultrasonographic examination of intrauterine fetal heart rate confirms pregnancy and additionally it is very important to evaluate the adnexal structures sensitively.

A day prior to the examination of the patient who was admitted to another hospital in this case, the complaints were attributed to a hyper stimulation and tubal pregnancy could not be detected. This may be due to the difficult evaluation of the adnexal structures of hyper stimulated ovaries. In addition, the fact that ovarian hyper stimulation is sufficient to explain the current clinic may lead to the lack of detailed examination.

Heterotopic pregnancy is a condition that can be encountered when patients are treated for infertility. Due to the increasing use of assisted reproductive techniques in our country it is necessary to be aware of this issue and to keep in mind the differential diagnosis.

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Journal of Surgery and Medicine

Mondor’s disease of the breast: A case report

Memenin Mondor hastalığı: Olgu sunumu

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Abstract

Mondor's disease is sclerosing thrombophlebitis at anterior chest wall. It was first described by Henri Mondor in 1939. Despite the use of antibiotics, steroids, anticoagulants, no significant benefit was found. Symptomatic measures are sufficient for treatment. Mondor's disease is a self-limiting disease. Improvement is seen between 3 weeks and 6 months. In these cases, investigations should be done for hidden cancers in other region of the breast. In this study, a case with this rare disease was discussed in the context of the literature.

Keywords: Breast, Mondor’s Disease

Öz

Mondor hastalığı anterior göğüs duvarı yüzeyel venlerinin sklerozan tromboflebitidir. İlk kez 1939 yılında Henri Mondor tarafından tanımlanmıştır. Tedavisinde antibiyotik, steroid, antikoagulanlar kullanılmış fakat belirgin bir yarar saptanmamıştır. Semptomatik önlemler tedavide yeterlidir. Mondor hastalığı kendi kendini sınırlayan selim bir hastalıktır. Üç hafta ile 6 ay arasında iyileşme görülür. Bu olgularda diğer bölgelerde olabilecek gizli kanserler için araştırmalar yapılmalıdır. Bu çalışmada çok nadir görülen bu hastalığı bir olgu nedeniyle literatür eşliğinde tartıştık.

Anahtar Kelimeler: Meme, Mondor Hastalığı

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Informed Consent: Written informed consent was obtained from patient who participated in this study.
Hasta Onamı: Yazılı hasta onamı bu çalışmaya katılan hastadan alınmıştır.

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Introduction

Mondor's disease is a rare condition characterized by sclerosing thrombophlebitis, which includes one or more of the subcutaneous vessels of the chest and anterior chest wall (superior epigastric, thoraco-epigastric or lateral thoracic vein). Rare cases have been reported in atypical regions (penis, groin, antecubital fossa and abdomen) [1].

In 1939, Henri Mondor described the first detail as [2]. This is a benign and self-limiting situation. It is reported less than actual rate due to the lack of needed awareness to recognize. The diagnosis is often clinically manifested by the presence of a structure such as the superficial cord on the chest wall and can be confirmed by imaging methods such as Doppler ultrasound [3].

In most reports, it is defined as thrombophlebitis on the thoracic wall, which is seen as a residue of breast surgery [3, 4]. The aim of this study is to provide a patient with Mondor disease to increase awareness of this rare situation..

Case Presentation

Fifty four-year-old female patient admitted to the general surgery outpatient clinic due to bruising and tenderness in her right breast. She stated that her complaints suddenly began and there was no history of trauma before. In the examination, the right nipple was palpable in the upper middle section as well as the delicate hardness of the cord. There was also an ecchymosis in this area (Figure 1). In mammography, the upper quadrant of the right breast was observed in the middleline, and the thickness of a 6 mm diameter tortuous tubes opacity was seen in the thickest area of the region (Figure 2).

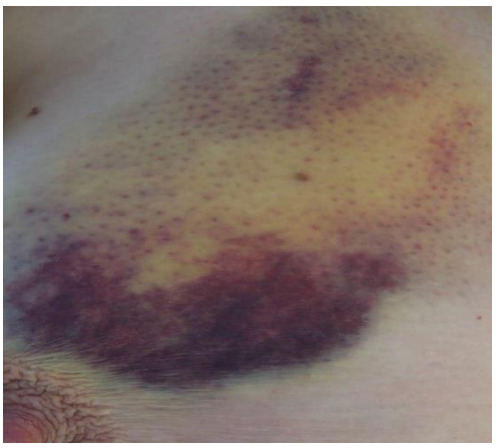

Figure 1: Ecchymosis on the right breast

In the same localization of breast ultrasonography, the total vascular thrombosis was seen in same localization with the color Doppler ultrasonography, and the thrombotic vascular structure followed by minimal re-canalized pattern. No other pathology was detected with imaging and examination in other parts of the breast. Massage and an extra-hot towel were recommended. Follow-ups ended without a problem.

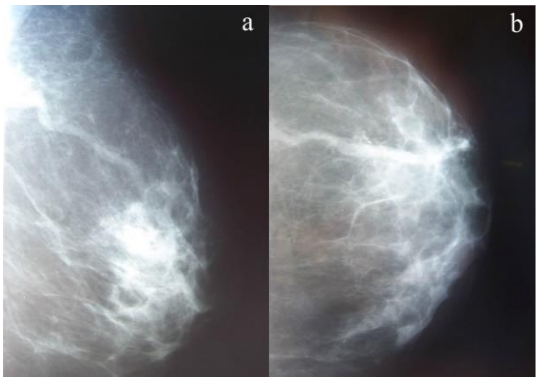

Figure 2: Image of tubuler structure in mammography (a: lateral oblique, b: cranio-caudal)

Discussion

Mondor's disease may be the first manifestation of latent cancer anywhere in the body, such as other migratory thrombophlebitis. Other causes include previous breast surgery, physical trauma, tight clothing, blood diseases. It is characterized by the sudden appearance of a subcutaneous cortex, which is initially red and then stretched to a painless, stiff, fibrous band accompanied by a tension and skin tension. The cord structure is evident by the pull, the elevation of the nozzle or the removal of the counter arm [5]. The disease usually does not contain any systemic symptoms. Mondor's disease, the breast-areola complex and axillary (lateral thoracic vein) affect the vessels that arise from the Epigastrium and its surroundings (upper epigastric vein) and the costal edge and upper abdominal wall (thoraco-epigastric vein). The differential diagnosis of Mondor disease includes: Lymphangiectasia, Lymphangioma, cellulite, erythema nodosum and metastatic carcinoma of the skin.

Ultrasonography allows the net to be seen in vascular structures. The obstruction of thickening vascular wall and vein lumen provides the diagnosis of the disease. Although rarely necessary, the biopsy should be taken into consideration because the process may not only contain small superficial vessels but also small arteries and lymphatics. Typical histopathological appearance, partial or total thrombo-obliterate sclerosis is endo-phlebitis [6, 7].

In the "American College of Chest Physicians" guide, without the need to add non-steroidal anti-inflammatory drugs in the treatment of superficial thrombophlebitis, the prophylactic dose or moderate dose of low molecular weight heparin is recommended for at least 4 weeks (Grade 2B proof) [8]. There is no clear suggestion for Mondor's disease in the present manual, but it can optionally be considered as a standard thrombophlebitis treatment.

The course of Mondor disease is usually self-limiting and does not carry any embolization risk before it is resolved spontaneously. A few weeks, or rarely, will heal in months [5, 7]. Therefore, the treatment of the disease is symptomatic and consists of hot wet towels and painkillers [9].

As a result, it is recommended to be aware of rare Mondor disease and six-month follow-up with mammography and ultrasonography. There is rarely a need for surgical excision of thrombotic veins.

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