

Gestational Thrombocytopenic Patients in Our Center: Analysis of the Patients and Review of the Literature

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ABSTRACT

OBJECTIVE: Gestational thrombocytopenia is the most common cause of the thrombocytopenia in pregnancy. The aim of this study was to determine the prevalence of gestational thrombocytopenia (GT) among pregnant women in our center.

STUDY DESIGN: Platelet count was analyzed in 452 pregnant women. The patients were divided according to severity of thrombocytopenia.

RESULTS: Forty-five patients were thrombocytopenic. Six patients were severe, 16 patients were moderate and 23 patients were mild thrombocytopenic. The prevalence of GT was found 9.9 %.

CONCLUSION: Gestational thrombocytopenia is usually observed as mild form.

Keywords: Thrombocytopenia, Gestational thrombocytopenia, Platelet count

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Introduction

Thrombocytopenia is a common disorder in pregnancy. Thrombocytopenia is classically defined as a platelet count of less than $150 \times 10^9/L$. Counts from 100 to $150 \times 10^9/L$ are considered mildly, 50 to $100 \times 10^9/L$ are moderately and less than $50 \times 10^9/L$ are severely depressed.¹ Its prevalence at the end of the pregnancy is between 6.6%-11.6% in large series.²⁻⁴ Most low platelet counts observed in the pregnancy are due to normal physiologic changes.²

The existence of thrombocytopenia is important for both mother and fetus.⁵ Gestational thrombocytopenia makes the three-fourths of all thrombocytopenia in pregnancy.⁶ Table 1 shows the causes of thrombocytopenia in pregnancy.⁷

This study was designed to determine the prevalence of gestational thrombocytopenia among women at one of the tertiary healthcare centers in Konya.

Table 1: Causes of thrombocytopenia in pregnancy

Gestational thrombocytopenia
Preeclampsia
HELLP syndrome
Acute fatty liver of pregnancy
Thrombotic thrombocytopenic purpura
Hemolytic uremic syndrome
Systemic lupus erythematosus
Antiphospholipid Ab syndrome
Disseminated intravascular coagulation
Viral infection
Nutritional deficiency
Drug use
Primary BM disorder

Material and Method

This was a retrospective study of 452 pregnant women attending Baskent University Konya Research Hospital between January 2013-December 2014. During the study period all pregnant women were recruited into the study. Thrombocytopenia is defined as a platelet count of less than $150 \times 10^9/L$. Counts from 100 to $150 \times 10^9/L$ are considered mildly, 50 to $100 \times 10^9/L$ are moderately and less than $50 \times 10^9/L$ are severely depressed.¹

Exclusion criteria

Pregnant women with bleeding disorders, women who used anti-inflammatory drugs such as acid acetilsalicylic, he-

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parin who had splenomegaly, previous thrombocytopenia disorder, connective tissue disorder, hypertension, preeclampsia and infection such as HIV and hepatitis B infection were excluded from the study.

The patients with normotensive blood pressure (<140/90 mmHg) were included to the study.

The number of the patients which we included to the study as sample size was calculated by Power analysis.

$$N = Z^2pq/d^2$$

Statistical analysis

Data were analyzed using SPSS version 16. The descriptive data were given as means \pm standard deviation. The Pearson chi-squared test was used for analytic assessment and the differences were considered to be statistically significant when the "P" value obtained was <0.05.

Results

Among 452 patients, 45 patients were thrombocytopenic. The prevalence was found as 9.9%. Six patients were severe (1.3%), 16 patients were moderate (2.2%) and 23 patients were mild (5.1%) thrombocytopenic. Table 2 shows the descriptive parameters of thrombocytopenic patients. Descriptive parameters and thrombocyte counts were given in Table 3. There were no statistically differences between two groups according to age and number of pregnancies ($p > 0.05$). Majority of the participants were in their third trimesters when their thrombocytopenic situations were detected.

Discussion

Platelets are non-nucleated cells derived from megakaryocytes in the bone marrow and play a critical role in the haemostatic system. There are some reasons for thrombocytopenia in pregnancy which some of them are unique to preg-

nancy, whereas others can be serious medical conditions that have been previously undiagnosed. The most common cause is gestational thrombocytopenia.¹

Our aim was designed to determine the prevalence of gestational thrombocytopenia in pregnant women attending antenatal care at one of the tertiary centers in obstetrics and gynecology in Konya.

The prevalence of gestational thrombocytopenia in our study was 9.9%. This result was similar to Sainio's result with 7.2%.^{4,8} In Ajibola's study the prevalence was about 13.5% whereas in Olayemi's study it was 15.3%.^{7,9}

Similar to the literature, most of the patients' thrombocytopenia began in the third trimester and also mild thrombocytopenia was observed more.³ As pregnancy advances, due to hemodilution secondary to expansion of plasma volume, platelet count seems to decrease by nearly 10%.¹⁰⁻¹² This decrease mostly occurs in the third trimester. Because of it, mild decrease of thrombocytopenia in the third trimester was observed in our series.

In the severe thrombocytopenic group, the prepregnancy levels of thrombocytes were in border-line, either dilutional effects or accelerated destruction of platelets passing over the damaged trophoblast surface of placenta might cause the decrease of thrombocytes.¹³⁻¹⁵

In the study, 14 twin pregnancies were detected in severe and moderate thrombocytopenic groups possibly it was related to greater increase of thrombin generation.^{12,15}

Conclusion

Gestational thrombocytopenia is usually mild and occurs mostly in the third trimester. The other reasons of thrombocytopenia should be excluded to not to be faced with obstetric complications.

Table 2: Distribution of thrombocytopenic patients

	Mild Thrombocytopenia n=23 (5.1 %)	Moderate Thrombocytopenia n=16 (2.2 %)	Severe Thrombocytopenia n=6 (1.3 %)
Number of Twin Pregnancies	0 (0 %)	10 (2.2 %)	4 (0.8 %)
Number of Singleton Pregnancies	23 (5.1 %)	6 (1.3 %)	2 (0.5 %)
Platelet Count	125240 \pm 22640	82750 \pm 15640	32850 \pm 12000

Table 3: Descriptive parameters of patients

	Control Group n=407	Thrombocytopenic Group n=45	p value
Mean Age (year)	26.82 \pm 6.42	25.74 \pm 5.41	$p > 0.05$
Mean Platelet Count	182000 \pm 30200	80280 \pm 27900	$p < 0.05$
Number of Pregnancies	2.84 \pm 1.42	2.62 \pm 1.25	$p > 0.05$

Merkezimizdeki Gestasyonel Trombositopenik Hastalar: Hastaların Analizi ve Literatürün Gözden Geçirilmesi

ÖZET

AMAÇ: Gestasyonel trombositopeni (GT), gebelikteki trombositopenilerin en sık nedenidir. Prevalansı: %6,6-11,6 arasında değişmektedir. Bu çalışmanın amacı; merkezimizdeki gebeler arasındaki GT prevalansını tespit etmektir.

GEREÇ VE YÖNTEM: Dörtüüz elli iki gebe kadın arasındaki trombosit sayısı analiz edildi. Hastalar, trombositopenilerinin ağırlığına göre ayrıldı.

BULGULAR: Kırk beş hasta, trombositopenikti. Altı hasta ağır; 16 hasta orta ve 23 hasta da hafif trombositopenikti. GT prevalansı: %9,9 olarak bulundu.

SONUÇ: Gestasyonel trombositopeni, genelde hafif formda görülür.

Anahtar Kelimeler: Trombositopeni, Gestasyonel trombositopeni, Trombosit sayısı sayımı

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