Original Article

Incidence of Thrombocytopenia in Pregnant Females Coming to Lady Willingdon Hospital, Lahore

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Abstract

Objective: To find out the incidence of thrombocytopenia in pregnant females coming to Lady Willingdon Hospital, Lahore

Methodology: This Descriptive analytical study was done at OPD of Obstetrics and Gynecology Department, Lady Willingdon Hospital Lahore from 01-07-2018 to 31-12-2018 after approval from local ethical committee. Pregnant females with SINGLETON pregnancy, age of 18-35 years, gestational age more than 28 weeks and either parity were included. Platelet counts were measured using blood samples taken from each pregnant woman. A sterile disposable dry needle and syringe were used to collect blood via anti-cubital vein with minimal stasis. EDTA anticoagulant tubes were used to dispense 3-ml blood

Results: In this study, out of 160 cases 27.5% were between 18 and 25 years of age and 72.5% were between 26-35 years of age, average age was 28.63+3.39years, frequency of thrombocytopenia in pregnant females was recorded in 17.5%. As per effect modifiers, such as age, gestational age, parity and BMI, thrombocytopenia was found to be statistically insignificant (p->0.05).

Conclusion: In our community, thrombocytopenia during pregnancy is not uncommon, and it must be assessed by routinely examining the peripheral smear and platelet count in early gestation, as well as during the third trimester, to ensure early diagnosis, as most patients remain asymptomatic.

Keywords: Pregnant females, third trimester, thrombocytopenia

Introduction

In pregnancy, thrombocytopenia is commonly encountered.[1] Thrombocytopenia is a prevalent complication of pregnancy, affecting around 7–10% of all pregnancies.[2] It happens four times more commonly among expectant mothers than in non-pregnant females. Women who develop thrombocytopenia during gestation are a diverse and poorly understood group.[3]

The majority of studies show a decrease in platelet counts in pregnancy, with levels at term being roughly 10% less than pre-pregnancy concentrations.[4] Platelet degradation and dilutional effects accelerated throughout the placenta are considered to be the factors behind this. Thrombocytopenia may also be caused by a variety of other pregnancy-associated disorders.[5] The majority of Thrombocytopenia cases identified during pregnancy have a moderate course and a favorable outcome for both mother and fetus. In the 8% out of 10% expectant mothers with Thrombocytopenia, the platelet count ranges from 100 to 150 G/l.[6] Secondary thrombocytopenia, which ranges between moderate - severe, can suggest a more severe underlying condition that affects neonatal problems. There was a higher frequency of lower scores of intrauterine fetal growth restriction (IUGR), Apgar at 5-minute, and stillbirths in neonates of mothers with thrombocytopenia of moderate to severe degree. There was no GE or ITP in these individuals, however they did have PE, DIC,

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HELLP syndrome, familial TTP, myeloproliferative disease, or antiphospholipid syndrome during pregnancy. These disorders are linked to a significant risk of death and necessitate early detection, clinical surveillance, and medical treatment.[3] Different studies showed different rates of the thrombocytopenia during pregnancy as a recent local study recorded 16.5% of the pregnant females having thrombocytopenia.[7] On the other hand, an Ethiopian study recorded 8.8% of the pregnant females had thrombocytopenia,[8] which is around 50% lower than in our country. This study aims that the reported frequency of thrombocytopenia in pregnant females is significantly different than in our population which needs another study to be conducted to confirm this difference. The reported magnitude in this study will be helpful for obstetricians.

Methodology

This descriptive analytical study was conducted at department of Obstetrics & Gynecology Lady Willingdon Hospital, Lahore during six months from July 2018 to December 2018. All pregnant females with SINGLETON pregnancy, age of 18-35 years, gestational age more than 28 weeks and either parity were included. All pregnant females who were on antiretroviral treatment and those who used anti-inflammatory drugs, or had hypertension, splenomegaly, or bleeding disorder, were excluded. Consent was obtained from the participants.

Demographic information including age, name, contact, parity and gestational age were recorded. Blood specimens were taken from all pregnant women for measuring platelet counts. A sterile disposable dry needle and syringe were used to collect blood via anti-cubital vein with minimal stasis. EDTA anticoagulant tubes were used to dispense 3-ml blood. Thrombocytopenia was assessed as positive as (platelet count <150x109 per liter). The severity of thrombocytopenia was defined as mild (platelet count of 100-150 x109 per liter), moderate (platelet count of 50-99x109 per liter) and severe (platelet count of <50x109 per liter). All the data were recorded by the researcher herself through pre-designed proforma. The data analysis was done using SPSS software version 21.

Results

A total of 160 cases fulfilling the selection criteria were studied, their mean age was 28.63+3.39 years and mean gestational age was 33.67+4.05 weeks. As per parity distribution 16.25% cases had parity 1 to 3 and 83.75% cases had parity more than 3 parity. Table I

Frequency of thrombocytopenia was found in 17.5% of the cases and its severity shown in table II. Frequency of thrombocytopenia was statistically insignificant according to the age, gestational age, parity and BMI (p-<0.05). Table III

Table I: Descriptive statistics of the demographic variables (n=160)

Variables		Statistics
Age		28.63±3.39years
Gestational age		33.67±4.05 weeks
Parity	1-3	134(16.25%)
	>3	26(83.75%)
	Total	160(100.0%)

Table II Frequency if thrombocytopenia and its severity (n=160)

Thrombocytopenia		Frequency (%)
No		132(82.5%)
Yes	Mild	10(06.2%)
	Moderate	11(06.9%)
	Severe	07(04.4%)
	Total	160(100.0%)

Table III: Thrombopenia according to age, g. age, parity and BMI (n=160)

Variables		Thrombocytopenia		P-value
		Present	Absent	
Age groups	18-25years	9	35	0.54
	26-35 years	19	97	
G. Age	28-36 weeks	24	91	0.07
	>36 weeks	4	41	
Parity	1-3	22	112	0.41
	>3	6	20	
BMI	≤ 30	15	82	0.40
	>30	13	50	

Discussion

Platelets have a role in primary hemostasis by sealing endothelial injury sites and serving as a surface for secondary hemostasis through the coagulation pathway. During pregnancy, 150–400 X109/l is the usual platelet level. Low platelet levels can be caused by a rise in platelet consumption or degradation, dilutional effects, or (in rare case) a lack of platelet synthesis. Platelet count decreases throughout pregnancy, especially in the third trimester. This study was planned with the view that the reported frequency of thrombocytopenia in pregnant females is significantly different than in our population who needed another study to confirm this difference. In this study, mean age of the patients was 28.63+3.39 years and mean gestational age was 33.67+4.05 weeks. Similarly, Brohi ZP et al[9] reported that the average age

of the patients was 30.8±5.594 years. On other hand Kalaycı H et al[10] reported that the average age of the females was 30 years and mean gestational age was 37 weeks. In another Indian study reported that the average age of the females was 23.9±2.6 years.

In this study, the frequency of thrombocytopenia in pregnant females was recorded as 17.5%. In the comparison of our findings the Ijaz T et al[7] reported that 16.5% of the pregnant females had thrombocytopenia. on other hand Brohi ZP et al[9] reported the thrombocytopenia was 24(33.8%) during pregnancy. Although in the study of Natu N et al[11] demonstrated that the incidence of thrombocytopenia during pregnancy was seen 8%. Although Misra D et al[12] conducted the study regarding association of feto-maternal outcome with gestational thrombocytopenia and observed 43(30.72%) females with thrombocytopenia. In the study of Vishwekar PS et al[13] demonstrated that the out of 1480 cases during antenatal clinic 8.78% were observed with thrombocytopenia and out of these 78.4% had mild thrombocytopenia, 15.2% had moderate thrombocytopenia and 6.4% had severe thrombocytopenia. Although in this study out of 28 cases of thrombocytopenia, 10 cases had mild thrombocytopenia, 11 had moderate thrombocytopenia and 7 had severe thrombocytopenia. Incidence of thrombocytopenia is still different according to the national and international studies and this may be because of study sample size and study selection criteria. This was also a small sample size and single center study with several other limitations, hence further large-scale studies are recommended on this subject at local level. Alternatively, an Ethiopian study recorded 8.8% of thrombocytopenia in pregnant females,[8] which is around 50% lower than in our country, the reason behind this difference may be that the population selected in Ethiopian study belongs to rural areas where routine antenatal checkup may be lacking.

In this study, there was no significant association of thrombocytopenia with age, parity, BMI and trimesters (p>0.05) and these findings are consistent with earlier Ethiopian research.[14] A recent practice bulletin revealed that the frequency of thrombocytopenia may be up to 15% of cases, it also supports our data.[15]

Thrombocytopenia may cause of the several physiologic or pathologic factors, some of which are specific to pregnancy. It can also may cause various significant medical conditions that can result in maternal and foetal morbidity.[16] The above discussion reveals that the magnitude in this study is helpful for obstetricians after validation of the results through some other local trials.

Conclusion

In our community, thrombocytopenia during pregnancy is not uncommon, and it must be assessed by routinely examining the peripheral smear and platelet count in early gestation, as well as during the third trimester, to ensure early diagnosis, as most patients remain asymptomatic.

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