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ORIGINAL ARTICLE

Evaluation of Women with Pregnancy Associated Thrombocytopenia

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ABSTRACT

Objective: To determine frequency of thrombocytopenia among pregnant women
Study Design: Descriptive cross sectional study.
Place and Duration of Study: Department of Gynaecology & Obstetrics from 1st May 2018 to 30th November 2018.
Methodology: One hundred and fifty seven pregnant women of reproductive age of 15-45 years, who were normotensive without any malarial parasite or platelet aggregation seen on peripheral film were included while women with previous pregnancy with history and prior record of thrombocytopenia, on steroids, NSAIDS, or who went through splenectomy were excluded. Selected cases were thoroughly examined investigated for all possible causes.
Results: The average age of 32.57±6.63 years, among these 21 [13.37%] were primiparous, 78 [49.68%] multiparous and 58 [36.94%] grand multiparous. Mean gestational age was 36.65±1.82 weeks, Mean Weight was 73.06±16.09 kg, mean height was 161.99±9.96 cm and mean BMI was 27.87±6.25 kg/m^2.
Conclusion: Thrombocytopenia among pregnant women with 33% prevalence observed.
Key words: Pregnancy associated thrombocytopenia (PAT), Pregnancy, Frequency

INTRODUCTION

Pregnancy is related with physiological and obsessive changes in platelet count and capacity which can be of clinical importance.[1] Acquired imperfections in platelet capacity and number may likewise show the danger of bleed.[2] Thrombocytopenia influences 6% to 10% of every pregnant lady and other than anaemia is the 2nd common hematologic problem related to pregnancy.[2,3]

Gestational thrombocytopenia accounts for 65% to 80% in total cases of thrombocytopenia.[4,5] Thrombocytopenia is a typical issue during pregnancy and it is by and large under analyzed and fumbled.[6] Thrombocytopenia is traditionally characterized as a platelet tally of under 150,000/µL.[7]

The general frequency of PAT is 8%, yet when cases with obstetric or ailments are prohibited, the rate drops to 5.1%.[8] PAT is as of now thought to be a benign issue, however it should be excluded from major disorders; accordingly, a differential determination is of particular concern.[9] Interestingly, moms with ordinary idiopathic thrombocytopenia purpura (ITP) regularly have more extreme thrombocytopenia, and the management choices for ITP in pregnancy stay restricted.[10]

By and large, this "physiologic" decline in platelets happens in the last trimester.[11] PAT may happen auxiliary to an assortment of causes going from benign issues to conditions related with critical bleakness like eclampsia, HELLP (hemolysis, elevated liver enzyme levels, and low platelet levels), ITP, hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP).[10,12] Different reasons for PAT are uncommon, for example, Type II VWD and DIC.[13] In this way, direction with respect to the choice of a fitting treatment dependent on the various reasons for thrombocytopenia in pregnancy is direly required; in any case, PAT and ITP must be distinguished & diagnosed accordingly; so the patients can be properly managed.[14]

The rationale of the study was to add to literature the loco-regional data related to the frequency of thrombocytopenia among pregnant women and its different aspects in our community.

MATERIALS AND METHODS

This descriptive cross sectional study has been conducted at Department of Gynecology & Obstetrics from 1st May 2018 to 30th November 2018. All pregnant women of reproductive age of 15-45 years, who were normotensive without any malarial parasite or platelet aggregation seen on peripheral film were included while women with previous pregnancy with history and prior record of thrombocytopenia, on steroids, NSAIDS, or who went through splenectomy were excluded. Selected cases were thoroughly examined investigated for all possible causes, data collected by pre designed pro-forma for study and analyzed by SPSS version 22.

RESULTS

The average age of the women was 32.57±6.63 years. There were 21 (13.37%) primiparous, 78 (49.68%) multiparous and 58 (36.94%) grand multiparous (Table 1). Frequency of thrombocytopenia was observed in 52 (33.12%) one third cases, among these 10 (19.32%) were mild, 37 (71.15%) moderate and 5 (9.61%) were severely affected (Table 2). According to stratification of data rate of PAT was significantly high in age of 31-40 years. Frequency of severity of thrombocytopenia by age and gestational age is shown in Table 3. Mean gestational age was 36.65±1.82 weeks, mean weight was 73.06±16.09 kg, mean Height was161.99 ±9.96 cm, and mean BMI was 27.87±6.25 kg/m^2 (Table 4).

Table 1: Distribution of patients by age, parity, thrombocytopenia by age and gestational age (n=157)

Age (years)	No.	%
<30	67	42.67
31-40	69	43.94
41-45	21	13.37
Parity		
Primiparous	21	13.37
Multiparous	78	49.68
Grand multiparous	58	36.94
Frequency of thrombocytopenia according to age n=52 [p- value 0.05]		
<30 y	17	32.69
31-40	30	57.69
41-45	5	9.61
Frequency of thrombocytopenia by gestational age n=52 [p-value 0.303]		
<37 weeks	34	65.38
>37 weeks	18	34.61

Table 2: Frequency of severity of thrombocytopenia (n=52)

Variable	No.	%
Mild	10	19.23
Moderate	37	71.15
Severe	5	9.61

Table 3: Frequency of severity of thrombocytopenia by age and gestational age (n=52)

Age	Mild	Moderate	Severe
<30	3 (5.76%)	12(23.07%)	2(3.84%)
31-40	6 (11.53%)	21(40.38%)	3(5.76%)
41-45	1 (1.92%)	4(7.69%)	0(0%)
<37 weeks	7(13.46%)	23(44.23%)	4(7.69%)
>37 weeks	3(5.76%)	14(26.92%)	1(1.92%)

Table 4: Mean values of age, gestational age, weight, height and BMI (n=157)

Age in years	32.57±6.63
Gestational age in weeks	36.65±1.82
Weight in kg	73.06±6.09
Height in cm	161.99±9.96
BMI in kg/m^2	27.87±6.25

DISCUSSION

In the present study, 52 (33.12%) pregnant women were thrombocytopenic, among these 6.36% were mild with platelet counts between 100,000 x10^9/L,-150,000 x10^9/L, 23.56% were moderate in severity with count of 50 x10^9/L to 100,000 x10^9/L and 3.184% were severe with count < 50 x10^9/L. It's anything but a determination of rejection, by and large causes just gentle thrombocytopenia, and happens in the last 50% of pregnancy, from mid-second or third trimester. Three enormous series including together in excess of 26,000 ladies propose that its pervasiveness toward the end of pregnancy is somewhere in the range of 6.6% and 11.6%.[1-3]

In clinical review by Levy[15] reported that pregnancy muddled with thrombocytopenia is a challenge to the clinician. The heap of illness measures, either pregnancy-actuated problems or predisposition ailments, can cloud the right conclusion. Recollect the incredible greater part of patients will have a considerate condition, yet a minority of patients who have a more genuine sickness are in danger for genuine morbidity and mortality. With an exhaustive history, physical assessment, centered research facility assessment, and appropriate meeting with obstetricians and hematologists, these patients consistently have favorable results and can be securely overseen by family doctors.

Abbassi-Ghanavati[16] stated that the platelets in pregnancy are somewhat lower than in non-pregnant ladies. Boehlen et al[17] observed in his study that, most contemplates report a decrease in platelet tally during pregnancy, bringing about levels about 10% lower than pre-pregnancy level at term, Most of ladies actually include levels inside the ordinary range; in any case, if pre-pregnancy levels are fringe, or there is a more extreme decrease, the level may fall beneath the typical reach. Fay[18] further explained that the components for this are believed to be impact of dilution and sped up annihilation of platelets ignoring the frequently scarred and harmed trophoblastic surface of the placenta.

Tsunoda[19] in his study observed that Platelets may likewise be lower in ladies with twin contrasted and singleton pregnancies, conceivably identified with more prominent increment of thrombin age. It might be an indicative and the board issue, and has numerous causes, some of which are explicit to pregnancy. Calderwood[20] observed that ladies with low platelets in pregnancy are for the most part less indicative due to the procoagulant state initiated by expanded degrees of fibrinogen, factor VIII and VWF, smothered fibrinolysis and decreased protein S action.

In study by McCrae[21] discussed that gestational thrombocytopenia is the commonest reason for thrombocytopenia in pregnancy (75% of cases), and isn't related with any unfavorable occasions for one or the other mother or child.

Win[22] considered this analysis more uncertain if the platelet check plunges under 70x10^9/L; the primary differential determination at this level or lower is ITP. Notwithstanding, there are reports of more serious thrombocytopenia that showed no reaction to steroids, and which settled postnatally, reliable with gestational thrombocytopenia.

McCrae[23] recommend that a short preliminary of prednisolone by and large 20 mg daily might be useful symptomatically and remedially when the platelet check is around 50–70x10^9/L. Myers[24] observed that maternal platelet tally standardizes within 4-8 weeks after giving birth to baby in case of gestational thrombocytopenia.

Incidence / prevalence reported by various authors of globe varies; 11.4%[25], 8.8%[26], 7.6%[27] and 7.3%[28], while we observed huge prevalence of 33.12% in our community.

Ajibola[29] and Boehlen[30] reported majority of cases of mild thrombocytopenia, while we observed 6.36% mild, 23.56% moderate & 3.184% were severe in platelet counting criterion. In study of 103 with a platelet count less than 100000/mL by Katke[31] observed the mean gestational age of 33±5.139 weeks with 70.9% moderate decline and 29.1% with severely involvement to platelet count, while we observed mean gestational age of 36.65±1.82 weeks in our study.

CONCLUSION

Thrombocytopenia is the crucial problem among pregnant women with 33% prevalence observed. Although PAT is

common, but is not frequently severe, however awareness of complex disorders is essential. Detailed history and clinical assessment is the key to rule out major issues. Multidisciplinary approach by hematologist and obstetrician will helpful to manage it.

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