



Evaluation of Causes of Thrombocytopenia in Pregnancy among Kashmiri Women

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Abstract:

Objective: Finding causes of thrombocytopenia in pregnancy in hospitalized patients.

Methods: The study was conducted in the department of obstetrics and gynecology, Sher-e-kashmir institute of medical sciences, Kashmir from Oct. 2011 to Nov. 2013. Total of 100 pregnant women with thrombocytopenia were studied among the women admitted in wards and labour room.

Results: Among 100 thrombocytopenic pregnant women; Sixty five patients were diagnosed with gestational thrombocytopenia (65%); thirteen patients were diagnosed with Idiopathic thrombocytopenia purpura (13%), fifteen patients with pre-eclampsia (15%), six patients with HELLP syndrome (6%) and one patient with HIV (1%).

Conclusion: The gestational thrombocytopenia is most common cause of thrombocytopenia in pregnancy while Pre-eclampsia, Idiopathic thrombocytopenic purpura and HELLP syndrome are less common causes.

Key words: Pregnancy, Gestational thrombocytopenia, ITP and platelet count.

Introduction:

Thrombocytopenia is defined as a platelet count less than 150,000/mm³, occurs relatively

frequently in pregnancy, complicating 10% of all pregnancies mostly in third trimester.¹ It is second only to anemia as the most common hematologic

abnormality during pregnancy². It is diagnosed during routine prenatal Complete blood count. The common causes of thrombocytopenia in pregnancy are; Gestational thrombocytopenia or incidental thrombocytopenia, Idiopathic thrombocytopenic purpura (ITP), Hypertensive disorders of pregnancy and HELLP syndrome, Thrombotic thrombocytopenic purpura(TTP), disseminated intravascular coagulation, acute fatty liver of pregnancy, systemic lupus erythematosus, antiphospholipid antibody syndrome, human immunodeficiency virus, and drugs.³
⁴Thrombocytopenia during pregnancy is an underexplored condition with limited availability of literature. Present study was aimed at evaluating the causes of thrombocytopenia in pregnancy among kashmiri women.

Aims and Objectives: Finding causes of thrombocytopenia in pregnancy in hospitalized patients.

Material and methods: Present study was conducted in the department of obstetrics and gynecology, Sher-e-kashmir institute of medical science, Kashmir from Oct. 2011 to Nov. 2013. SKIMS is 650 bedded tertiary care centre for Obstetric and gynecology. Total of 100 pregnant women with thrombocytopenia were studied among the women admitted in wards and labour room.

Inclusion criteria:

- i. All pregnant women with thrombocytopenia
- ii. Age range between 20 and 35 years
- iii. Gestational age between 32 and 42 weeks calculated from first day of last menstrual period.

Exclusion criteria:

- i. Pregnancy with:
 - a. Alcoholism
 - b. Smoking
- ii. Drug induced thrombocytopenia
- iii. Spurious thrombocytopenia

All the subjects were informed about the procedure. A verbal informed consent was taken before taking the blood sample. While evaluating the results of study, relevant clinical data was collected from every patient, which included a detailed history, general, systemic and obstetric examination and baseline investigations including ultrasonography were performed. The blood sample was taken from the ante-cubital vein of every patient and investigated for; Complete blood counts (Mythic-18 hematology cell counter) , Peripheral blood film, Bleeding time, Clotting time, HBsAg, VDRL, HIV, Glucose challenge test, liver function test, kidney function test, serum electrolytes, prothrombin time/partial thromboplastin time, Urine routine examination. Lupus anticoagulant antibody (LAC), anticardiolipin antibody (aCL) and antinuclear antibody (ANA) were also done by ELISA method.

Results and observations: Among 100 thrombocytopenic pregnant women, the diagnosis included:

Sixty five patients with gestational thrombocytopenia (65%), thirteen patients were

diagnosed with Idiopathic thrombocytopenia purpura (13%), fifteen patients with pre-eclampsia (15%), six patients with HELLP syndrome (6%) and one patient with HIV (1%).

Thrombocytopenia	Causes	No. of cases	Percentage
	GT	65	65%
	ITP	13	13%
	PE	15	15%
	HELLP	6	6%
	HIV	1	1%
	OTHERS	0	0%
Total		100	100%

Discussion: Thrombocytopenia in pregnancy may result from a number of causes, some of these are unique to pregnancy, while others may occur with increased frequency during gestation and still others bear no relationship to pregnancy.⁵ Present study was undertaken to evaluate the causes of thrombocytopenia in pregnancy.

A total of 100 pregnant women with Thrombocytopenia were studied among the women admitted in wards and labour room. The cases with drug induced and spurious thrombocytopenia were excluded; subjects with history of smoking and alcoholism were also excluded from the study.

Our study has revealed that the most common cause of thrombocytopenia in pregnancy is gestational thrombocytopenia 65% followed by pre-eclampsia 15%, ITP (idiopathic thrombocytopenic purpura) 13%, HELLP (hemolytic anemia, elevated

liver enzymes and low platelet) syndrome 6% and HIV (human immune deficiency virus) infection 1%. Our observations are in agreement with Singh Nisha et al 2011, carried out similar study on 1079 antenatal women for causes of thrombocytopenia.

Gestational thrombocytopenia was seen in 64.2%, obstetric in 22.1% and medical in 13.68%.⁶ In another similar study by Michal parnas et al 2005, studied 199 pregnant women with thrombocytopenia to evaluate the cause and obstetric risk factors associated with thrombocytopenia in pregnancy. Gestational thrombocytopenia (59.3%), immune thrombocytopenic purpura (11.05%), pre-eclampsia (10.05%) and HELLP (hemolysis, elevated liver enzymes and low platelet count) syndrome(12.06%).⁷ Burrows RF et al (1990) evaluated causes of thrombocytopenia in 513 pregnant women. The gestational thrombocytopenia was determined in 65.1%, Hypertension and Idiopathic thrombocytopenic purpura in 21% and 13.1% had obstetric cause (diabetes and pre-term labour) for thrombocytopenia.⁸ Gestational thrombocytopenia was defined as an asymptomatic thrombocytopenia occurring during pregnancy, in patients with a normal platelet count at the beginning and or immediately before pregnancy and without anti-platelet- antibodies. The cause of gestational thrombocytopenia is unclear, although it might be secondary to accelerated platelet consumption and the increased plasma volume

associated with pregnancy.⁹ Immune thrombocytopenic purpura (ITP) is caused by platelet destruction in the reticular endothelial system, due to platelet auto-antibodies against several platelet membrane glycoprotein complexes.^{10,11} the exact cause of thrombocytopenia in hypertensive disorders of pregnancy is unknown, but one explanation is that it might be related to abnormal vascular tone with resultant accelerated platelet destruction, platelet activation, and coagulation defects.¹²

Thus from our study the common cause of thrombocytopenia in pregnancy is gestational thrombocytopenia while the pre-eclampsia, idiopathic thrombocytopenic purpura and HELLP syndrome are less common causes.

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