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Thrombocytopenia in Pregnancy

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Abstract: ***This is the retrograde study regarding thrombocytopenia in all aspects including causes with gestational, medical and related with obstetrics. It also includes diagnosis and management according to its severity and maternal outcome.***

Keywords: identify cause first and manage then

1. Introduction

- Thrombocytopenia defined as platelet count of less than 1,50,000/cu.mm. Is a common haematological disorder. It is second only to anaemia as the most common haematological abnormality in pregnancy.
- Thrombocytopenia is being more frequently diagnosed in pregnant women since the last 20 years. Thrombocytopenia in pregnant women may result from the effects of diverse processes, which may be either physiological or pathological.
- Thrombocytopenia is divided according to severity into mild (100, 000 to 150, 000), moderate (50, 000 to 100, 000) and severe (less than 50, 000) thrombocytopenia.
- The majority of thrombocytopenic pregnant women is healthy has no history of thrombocytopenia, and is incidentally diagnosed by blood testing. This condition, called incidental or gestational thrombocytopenia (GT), usually has no influence on pregnancy, labor& delivery or on the new born.
- There may not be a risk of severe hemorrhagein GT, butpre-eclampsia, HELLP syndrome and ITP (Immune Thrombocytopenic Purpura) expose mother and child to potentially life threatening complications.
- Thrombocytopenia in pregnancy is divided according to etiology into gestational, medical (ITP, hypersplenism, hepatic disorders etc.) and obstetric (hypertensive disorders, DIC) thrombocytopenia.

2. Aims and Objectives

- To determine the etiology, adverse effects and interventions required in relation to thrombocytopenia in pregnancy.

3. Materials and Methods

- Study type: Retrospective Study
- No. of patients: 80 obstetric patients
- Place: B. J. Medical College and Civil Hospital, Ahmedabad, Gujarat, India.
- Exclusion criteria: Patients with pancytopenia and bone marrow suppression were excluded from the study.
- Records of obstetric patients were studied from Department of Obstetrics and Gynaecology B.J. Medical College Ahmedabad, from September2015 to August2016. Patients were included irrespective of gestational age. All women had previous records of platelet count estimation.
- Platelet count assessment had been done through automated blood count analyzer with routine antenatal hematological evaluation of the patient.
- All women had been subjected to blood test for Hb, TLC, DLC, bleeding time, clotting time, RFT, LFT, HBsAg & HIV. Women with fever had been tested for Dengue IgM. Coagulation tests(PT, APTT, FDP and fibrinogen) had been done in those with signs or symptoms of DIC.
- Platelet counts are repeated in our institute, once in each trimester and in the postpartum period at 1 & 6 weeks.
- Babies of all cases had been tested for thrombocytopenia and were followed up for any complications.

4. DISCUSSION

- Thrombocytopenia is a common problem during pregnancy, often under diagnosed and mismanaged.
- Limited data was available from early pregnancy as a significant proportion of antenatal women in our scenario seek advice only during late pregnancy or when a complication arises.
- In the present study, prevalence of thrombocytopenia during pregnancy was 8.8%.Sainio et al. reported a prevalence of thrombocytopenia in a population based surveillance study to be7.3%. Thus, the prevalence of thrombocytopenia in Indian population is similar to world literature (5– 12%).
- The present study found no influence of age and religion on prevalence of thrombocytopenia in pregnancy.
- Gestational Thrombocytopenia was the most common cause around 64% of all thrombocytopenia in this study with a platelet count ranging from 65, 000 to1350000/cu.mm.
- Ajzenburget al. assumed that GT occurs due to increased platelet consumption within the placental circulation and/or normal inhibition of megakaryocytopoiesis.
- It followed a benign course without any adverse effect and need for intervention during pregnancy. The platelet count falls progressively during pregnancy and rarely drops below 70, 000/Cu.mm. Women are asymptomatic and have a completely negative history of abnormal bleeding.
- GT has no impact on either the mother or the fetus.

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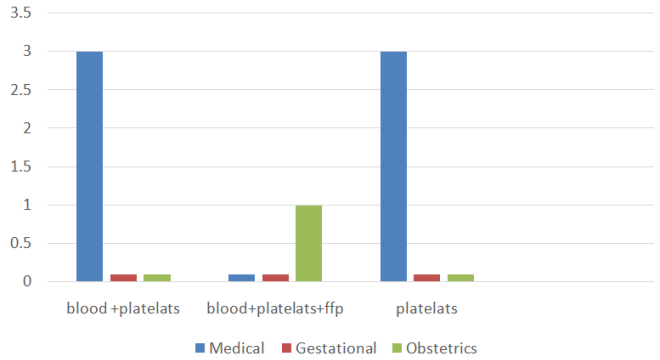
- Thrombocytopenia due to HELLP syndrome and severe preeclampsia were the 2nd common cause around 22% of all thrombocytopenia in our study.
- Activation of both the coagulation and fibrinolytic systems leads to the development of severe thrombocytopenia and disseminated intravascular coagulation (DIC) which occurs in some patients with preeclampsia.
- We observed that HELLP syndrome caused hemolysis, altered liver functions, lowering of platelets and severe hypertension in our patients and was associated with high maternal and fetal morbidity and mortality due to placental abruption, preterm deliveries, low APGAR scores, intrauterine growth retardation, stillbirths and maternal deaths.
- In our study 3 mortality was recorded in relation to thrombocytopenia, in which 2 due to HELLP SYNDOME and its complication, which was 66.66%, other one due to PPH, which was 33.33% of total mortality.
- ACOG recommended that the definitive treatment of maternal thrombocytopenia in the setting of PIH with HELLP syndrome is termination of pregnancy. Platelet transfusions are less effective in these women because of accelerated platelet destruction.
- ITP affects only 1–2 of every 10, 000 pregnancies.
- Nadine Shehata et al. concluded that Detection of thrombocytopenia prior to 28 weeks of gestation is predictive of ITP.. We found 1 case of ITP in our study, which was 1.2% of total thrombocytopenia cases, which was detected in 2ndtrimester.
- The diagnosis of ITP is based on exclusion and only be made if other causes have been excluded.
- When ITP appears during pregnancy, both mother and fetus can be affected as antiplatelet antibody IgG can cross the placenta and cause thrombocytopenia. It is difficult to predict which fetus will be affected. The best predictor of severe neonatal thrombocytopenia is a previously affected child.
- Corticosteroids is the first line therapy, law doses of steroid is safe and effective in pregnancy.
- Intravenous immunoglobulins may be used in women requiring prolong therapy or resistant to steroid therapy or require high maintenance dose.
- Platelet transfusion are given as last resort for bleeding or prior to surgery.
- Women with ITP and platelet counts over 50, 000/cu.mm must be managed conservatively during labour and delivery and a caesarean section is performed only for obstetrical indications.

Distribution according to of Thrombocytopenia cases Etiology

Cause	**No. of Cases**	**%**
Gestational	53	64%
Obstetrics 1.PIH S.PIH, Pre-eclampsia Eclampsia	17 13 2	22% 15% 3%
2.DIC	2	3%
MEDICAL 1.Hypersplenism 2. Hepatic disorder 3. Malaria 4. Megaloblastic Anemia 5.ITP	13 2352 1	15.66% 2.4 %3.6 % 6.02% 2.4% 1.2%

Comparison of Treatment Used In Different Types of Thrombocytopenia in Pregnancy



Maternal Outcome

Variables	**Number of cases**	**%**
Delivered	70	84.33%
Undelivered	13	15.66 %
Survived	80	96.4%
Died	3	3.6%
Cause of maternal mortality		
Post Partum haemorrhage	1	33.33 %
HELLP Syndrome and Its Complication	2	66.66 %

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5. Conclusion

The baseline low platelet counts and declining trend with increasing gestational age predispose Indian women to increased risk of thrombocytopenia in pregnancy. Thus, platelet count estimation should be a routine at first antenatal visit for timely diagnosis and to achieve favourable fetomaternal outcome in all types of thrombocytopenia during pregnancy.

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