



STUDY OF CORRELATION BETWEEN PLATELET COUNT, DIFFERENT TRIMESTERS OF PREGNANCY AND PRE-ECLAMPSIA OF PREGNANCY.

Physiology

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KEYWORDS

BACKGROUND

Changes in platelet indices in normal pregnancy compared to normal non-pregnant individual have been variably reported.

The purpose of present study is to explore the relationship, if any, between pregnancy induced pre-eclampsia and thrombocytopenia.

Pre-eclampsia usually occurs in late pregnancy and is a major cause of maternal, fetal and neonatal morbidity and mortality. Although, the etiology of pre-eclampsia is unknown, a relationship with thrombocytopenia is variably reported.

MATERIAL AND METHOD

Study Group:

The normal pregnant group was drawn from 90 women attending the antenatal clinic and O.P.D. of obstetrics and gynaecology department of G.G.Hospital over a four month period. This group had a gestational age range of 8-42 weeks.

The pre-eclampsia group was composed of 30 patients diagnosed on the basis of toxic signs like S.B.P. > 150mmHg and/or D.B.P. > 100mmHg; together with significant proteinuria > 500mg/L taken from department of obstetrics and gynaecology of G.G. Hospital and M.P.S.M.C.Jamnagar.

Blood Samples:

Blood sample were collected in special K-3 EDTA tubes and analysed on automated cell counter within 2-6 hours of collection.

RESULTS AND OBSERVATION

The results of platelet count made on blood samples taken during the three trimesters of Pregnancy are shown in Table-1:

Table Number – 1

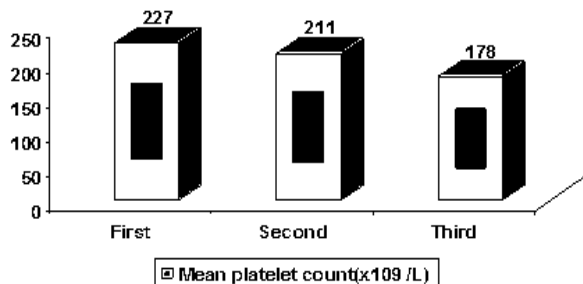
Trimester of pregnancy	No. of patients	Mean platelet count ($\times 10^9$ /L)	Standard deviation	Range ($\times 10^9$ /L)
First	30	227	46.9	157-383
Second	30	211	52.6	96-361
Third	30	178	51.8	75-324

Platelet Counts During Three Trimester Of Pregnancy

Table number – 2

comparison	Degree of freedom	t-value	Significance
1 st v/s 2 nd	58	1.24	p<.22
1 st v/s 3 rd	58	4.10	P<.0001
2 nd v/s 3 rd	58	2.69	P<.0092

Using student's t-test; a comparison of results from three trimesters of pregnancy



Graphical representation of Table Number – 1.

Table number – 3

No. of patients	Mean platelet count ($\times 10^9$ /L)	Standard deviation	Range ($\times 10^9$ /L)
30	119	22.3	85- 178

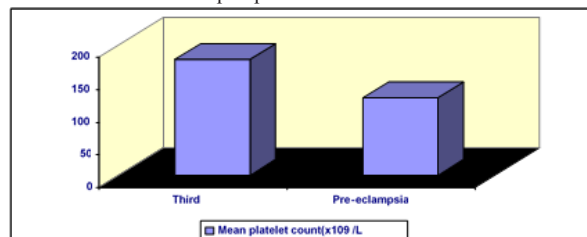
Results of platelet counts made on blood sample taken from pre-eclamptic patients.

Next, Comparison between normal third trimester pregnant women with Pre eclamptic women running in their third trimester are done, using t-test.

Table Number – 4

Comparison	Degree of freedom	t-value	significance
3 rd v/s pre-eclampsia patients of 3 rd trimester	58	5.40	P<.0001

Using student's t-test a comparison of results from 3rd trimester normal & 3rd trimester Pre-eclampsia patients.



Graphical representation of Table number - 4

In pre-eclampsia patients, there was a significant thrombocytopenia. 15/30 patients with pre-eclampsia showed a count below 110×10^9 /L which is significantly lower than that observed in pregnant women with out pre-eclampsia.

DISCUSSION

Comparison of mean values of platelet counts obtained during normal pregnancy revealed a non significant decrease from the first to second trimester and a significant Decrease from the second to third trimester but further investigation is needed only in those whose count is below 110×10^9 /L.

This study provided evidence that patients with pre-eclampsia are more likely to have a reduced platelet count compared to those with a normal pregnancy.

CONCLUSION

Determination of platelet count is a simple procedure, available in most laboratories. It is a quick, simple and cost effective test which can confidently predict pre-eclampsia and have a significant impact on maternal and perinatal outcome worldwide.

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