Original Research Paper

Physiology

A STUDY OF HAEMATOLOGICAL PARAMETERS IN PRE-ECLAMPSIA.

Dr Sumera Tasleem	Md Physiology, Upgraded Department Of Physiology, Hyderabad, Telangana.
Dr A.santakumari*	MD Physiology,professor Upgraded Department Of Physiology Hyderabad, Telangana. *Corresponding Author
Dr Ch. N. Rajkumari	MD Physiology,hod, Upgraded Department Of Physiology, Hyderabad, Telangana.
Dr Mohd Yousuf Qureshi	Assistant Professor,malla Reddy Hospital,hyderabad,telangana.

ABSTRACT Pre-eclampsia is a multiorgan disease process of unknown etiology characterized by increased blood pressure (B.P.>140/90 mmHg) and proteinuria(>300 mg per 24 hrs) and/or edema after 20 weeks of gestation[3].
This study was taken to compare haematological parameters between normotensives ad pre-eclamptic patients.

KEYWORDS : Preeclamspia,platelet Count,bt& Ct.

INTRODUCTION
- Pregnancy Induced Hypertension (PIH) is defined as hypertension that occurs in pregnancy for the first time after 20 weeks of gestation and disappears following delivery[1].
- The disorder affects approximately 5 to 7 percent of pregnancies and is a significant cause of maternal and fetal morbidity and mortality[2].
- Haematological changes like numerical and functional platelet abnormalities and hypercoagulable state may be seen.
- Haematological abnormalities usually manifest as mild and indolent consumptive coagulopathies ,including consumption of platelets , clotting factors and fibrinogen.
- Preeclampsia is categorized as a risk factor for future cardiovascular disease.
- Common complications include stroke, placental abruption, seizures, low fetal birth weight and haemorrhage.

AIM & OBJECTIVES
To compare haematological parameters between normotensives and pre-eclamptic pregnant patients.

MATERIALS & METHODS
study was carried out at Osmania General Hospital, OBG Dept, Hyderabad.

STUDY GROUP -30 females of preeclampsia attending antenatal clinic and inpatient ward, aged 20-35 years ,free from any other complication of pregnancy.

CONTROL GROUP-age matched 30 normotensives.
Parameters assessed are:
1. **PLATELET COUNT**- By Automated cell counter.
2. **BLEEDING TIME**-By Duke's method.
3. **CLOTTING TIME**- By Wright's Capillary Tube method.

STATISTICAL ANALYSIS
Results were tabulated and analysed using Graph pad instat software.

Unpaired t test was done to compare the means.
p value of <0.05 was selected as significant.

RESULTS
- Platelet count showed reduction in preeclampsia group compared to control group which was statistically significant.
- The bleeding time and the clotting time showed an increase in preeclampsia group which is not statistically significant compared to control group

TABLE 1 COMPARISON OF HAEMOTOLOGICAL PARAMETERS BETWEEN NORMAL PREGNANCY AND PREECLAMPSIA

Parameters	Platelet Count (lakhs per cu.mm)		Bleeding Time (min)		Clotting Time (min)	
	Normotensives	Preeclampsia	Normotensives	Preeclampsia	Normotensives	Preeclampsia
Mean+ standard deviation	2.554+0.39	2.123+0.43	3.369+0.99	3.863+1.15	4.615+0.82	4.84+0.79
Standard Error of Mean	0.072	0.079	0.182	0.211	0.149	0.1499
p value	0.0002 (VS)		0.0818(NS)		0.2724 (NS)	
t value	4.010		1.771		1.108	

VS-very significant   NS-not significant

GRAPH SHOWING A COMPARISION OF MEANS OF PLATELET COUNT, BLEEDING TIME AND CLOTTING TIME BETWEEN NORMAL PREGNANCY AND PRE-ECLAMPSIA
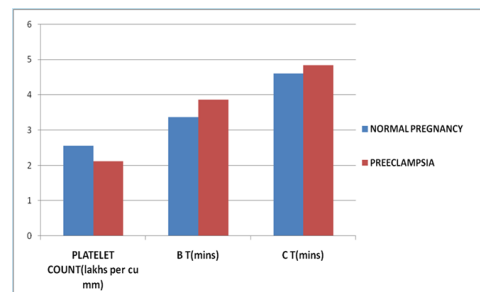
DISCUSSION
- Thrombocytopenia is directly proportional to the severity of preeclampsia .
- Counts below 1 lakh per cumm increases risk of Disseminated intravascular coagulation and HELLP(haemolytic anaemia, elevated liver enzymes, low platelet count) syndrome significantly , thus giving an early prediction suggesting prompt management.
- Prolonged bleeding time associated with thrombocytopenia may be due to impaired synthesis of thromboxane A_2 and generalized vasoconstriction.
- Clotting time increase could be due to accumulation of

fibrinogen derivatives, depression of fibrinolytic activity and alterations in clotting mechanisms.

• The thrombocytopenia observed is presumed to be due to

a) Decreased platelet life span,
b) Increased platelet aggregation and consumption,
c) Decreased prostacycline synthesis,
d) Immunological mechanisms.

Thus, detection of a deranged coagulation status early in the course of the disease helps to plan pre-emptive management strategies that play a crucial role in reducing morbidity and mortality of both mother and fetus.

ACKNOWLEDGEMENT

REFERENCES
1. Cunningham FG, Norman F Gant, Kerneth J Leveno, Lary C Gilstrap, Hauth JC, Wenstom KD. Hypertensive disorders in pregnancy. In A. Seilis, S.R. Noujaim, K Davis, editors. Williams Obstetrics. International Edn, 21st Edn, New York : McGraw Hill; 2001; p. 567–618.
2. Witlin AG, Sibai BM, Magnesium sulfate therapy in preeclampsia and eclampsia. Obstet Gynecol, (92):883–889, (1998).
3. Rahimi Z, Mozafari H, Parsian A, Preeclampsia and angiotensin converting enzyme (ACE) I/D and angiotensin II type1 receptor (AT1R) A1166C polymorphisms: Association with ACE I/D polymorphism J. Renin-Angiotensin Aldosterone System,14 (2): 174-180, (2013)