ABSTRACT

Background and Aim

PE (preeclampsia) is defined as new-onset hypertension and new onset proteinuria occurring after 20 weeks of pregnancy or maternal organ dysfunction, such as renal insufficiency, liver involvement, neurological or haematological complications, uteroplacental dysfunction, or foetal growth restriction. The incidence of PE in the south Indian population is determined as 4-5%. PE is a leading cause of maternal mortality, causing an estimated >60,000 maternal deaths worldwide per year. The pathogenesis of PE remains largely unknown, the leading hypotheses being the occurrence of a disturbed placental function in early pregnancy, with the development of maternal syndrome of PE in late pregnancy. In normal pregnancy physiological changes happen with hemostatic system, which gets exaggerated in PE and turns pathological leading to systematic disorders of metabolism as well as multiple organ dysfunctions and may even threaten maternal and foetal lives. Hence in our study we aimed to evaluate the coagulation profile and transfusion support in PE.

Materials and Methods

The study comprised of pregnant women at 24-27 weeks gestation (midpregnancy) with normotensive and PE cases of 30 and 50 respectively. In our study we did the comparison of Platelet Indices and Coagulation Parameters between the control population and PE cases. These parameters were observed initially at midpregnancy and again at the time of admission for delivery. The cases were categorized as PE with severe features (n=22)

and PE without severe features (n=28) as per ACOG Guidelines on Hypertension in Pregnancy.

Results

The coagulation parameter values and platelet indices at midpregnancy of PE cases with and without severity were observed to be within normal range of values obtained from control subjects. Whereas when comparing the late pregnancy parameters between the normal pregnancy and PE with severe features significant changes noted with PLT, MPV,PDW, APTT, TT and S.Fibrinogen. The predictor of severity of PE was analysed with ROC curve by plotting the parameters of PE without severe features and PE with severe features. The deranged coagulation profile happened with 11 of the severe PE cases (50%). 4 out of these 11 cases developed complications and rescued with blood component support.

Conclusion

In our study on evaluation of coagulation profile and transfusion support in preeclampsia cases, we observed a significant association between altered coagulation profile and the severity of cases in late pregnancy. However, these parameters can act only as an indirect predictor along with the severity of symptoms of PE in deciding prophylactic transfusion support. Analysis of these parameters with ROC curve yielded serum fibrinogen and PDW as a significant predictor of severity.