

ESTIMATION OF PERIPHERAL NK CELLS (pNK) AND ROLE OF INTRALIPID AND HEPARIN IN EARLY RECURRENT PREGNANCY LOSSES (RPL) – A PILOT STUDY

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OBJECTIVES: 1. To estimate peripheral NK cell (pNK) levels in recurrent pregnancy loss (RPL); 2. To evaluate the efficacy and safety of Intralipid & heparin in the management of unexplained RPL

DESIGN: Prospective comparative study was done in 50 women with RPL of I trimester after exclusion of known contributory factors after estimating peripheral NK cells.

MATERIALS AND METHODS: Two groups were analysed – those who received Intralipid n=25 and low molecular weight heparin n=25. Outcome of pregnancy analysed.

RESULTS: NK percentage >10.10% differentiated the cohorts with a sensitivity of 31.8% and specificity of 92% with Confidence Interval of 95% and a likelihood ratio of 1.8 which implies that a woman with more than 10.10 % of NK cell has 1.8 times higher risk of miscarriage than a woman with NK cell % less than 10.10%. The NK cell percentage ranged from 2-17% (mean 7.36 ± 3.84) which was normal according to the reference values of the laboratory that estimated the same in the total of 50 subjects analysed. Of the subjects observed in this study, 48% had two previous pregnancy losses. 26% of the subjects had three previous pregnancy losses and 26% had four or more previous pregnancy losses. However, the NK percentage was within normal range irrespective of the number of previous pregnancy losses. ROC analysis comparing NK cell percentage between the subjects that continued pregnancy and subjects who aborted was performed. The Area under Curve (AUC) was 0.508 indicating that estimation of NK cell percentage has poor value in the prediction of pregnancy outcome.

When the subjects who received Intralipid therapy (n=25) were compared with those who received LMWH therapy (n=25), there were no statistically significant differences in terms of the abortion rate, period of gestation at which abortion occurred, live births and the period of gestation at which they delivered. It was observed that the subjects in Intralipid group had complications such as preeclampsia (26%), IUGR (26%) and abruption (1%), whereas none in LMWH group had any complication of pregnancy. The birth weight of babies born in Intralipid group was significantly lower when compared to the babies born in the LMWH group. Continuations of pregnancies were 60% and 52% in intralipid group and heparin group respectively though statistically it was not significant.

CONCLUSION: We observed that NK cell percentage was within normal range in all subjects irrespective of whether they had primary or secondary RPL. Peripheral NK cell percentage has poor value in the prediction of pregnancy outcome. The pregnancy outcome in both Intralipid and LMWH therapy were comparable in terms of live births however pregnancy complications such as preeclampsia, IUGR and abruption were more in Intralipid group. Mean birth weight of babies was more in LMWH group. There were no major side effects with either of the therapies.