A-05: Uncomplicated malaria: clinical disease in pregnancy

Shyamalie Perera[1], Renu Wickremasinghe[3], D Fernando[4], T Galapathy[1], K N Mendis[5], A R Wickremasinghe[2]

([1]Malaria Research Unit, Dept of Parasitology, Faculty of Medicine, University of Colombo, Colombo 8, [2]Dept of Parasitology Faculty of Medical Sciences University of Sri Jayewardenepura, Nugegoda, [3]Dept of Community Medicine & Family Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, [4]Ministry of Health, [5]World Health Organization, Geneva, Switzerland)

Malaria in pregnancy has severe effects on both the mother and foetus and has been reported to be more severe in the pregnant state as compared to the non-pregnant state. Increased serum levels of cytokines such as IL-10, and TNF-alpha are responsible for the symptomatology and pathology of malaria. In this study we have investigated the role of IL-10 and IFN gamma on the clinical presentation of malaria in pregnancy. Three groups of subjects were investigated: malarious pregnant females, non-malarious pregnant females and malarious non-pregnant females from a malaria endemic area in Sri Lanka. At the time of diagnosis of malaria in the malarious subjects a detailed history with the associated symptomatology was obtained on a previously validated form. In the case of non-malarious subjects, a past history of malaria was obtained. A sample of blood was taken from all subjects for estimation of IL-10 and IFN-gamma levels.

There was no difference in the severity of clinical disease and plasma IL-10 levels between pregnant malarious and non-pregnant malarious females ($p=0.135$, and $p= 0.4796$, respectively). The mean IL-10 levels in pregnant malarious females and non-pregnant malarious females were significantly higher than the levels in non-malarious pregnant females ($p<0.001$ and $p = 0.0015$, respectively). However, there was no difference in the IL-10 levels between malarious pregnant and non-pregnant females. There was no significant difference in the IFN-gamma levels in malarious pregnant, non malarious pregnant and malarious non-pregnant females. There was no difference in the number of malaria attacks during the previous year or during their lifetime in malarious pregnant and non-pregnant females. There was also no significant difference in the time since the last attack of malaria, days of fever, and symptoms in malarious pregnant and non-pregnant females.

The data suggests that the extent of clinical disease of uncomplicated malaria if treated early is not more severe in the pregnant state as compared to the non-pregnant state in females living in moderately endemic areas and seeking

early treatment for the disease. It appears that IL-10 and IFN-gamma levels are not affected by the pregnant state during an attack of malaria.