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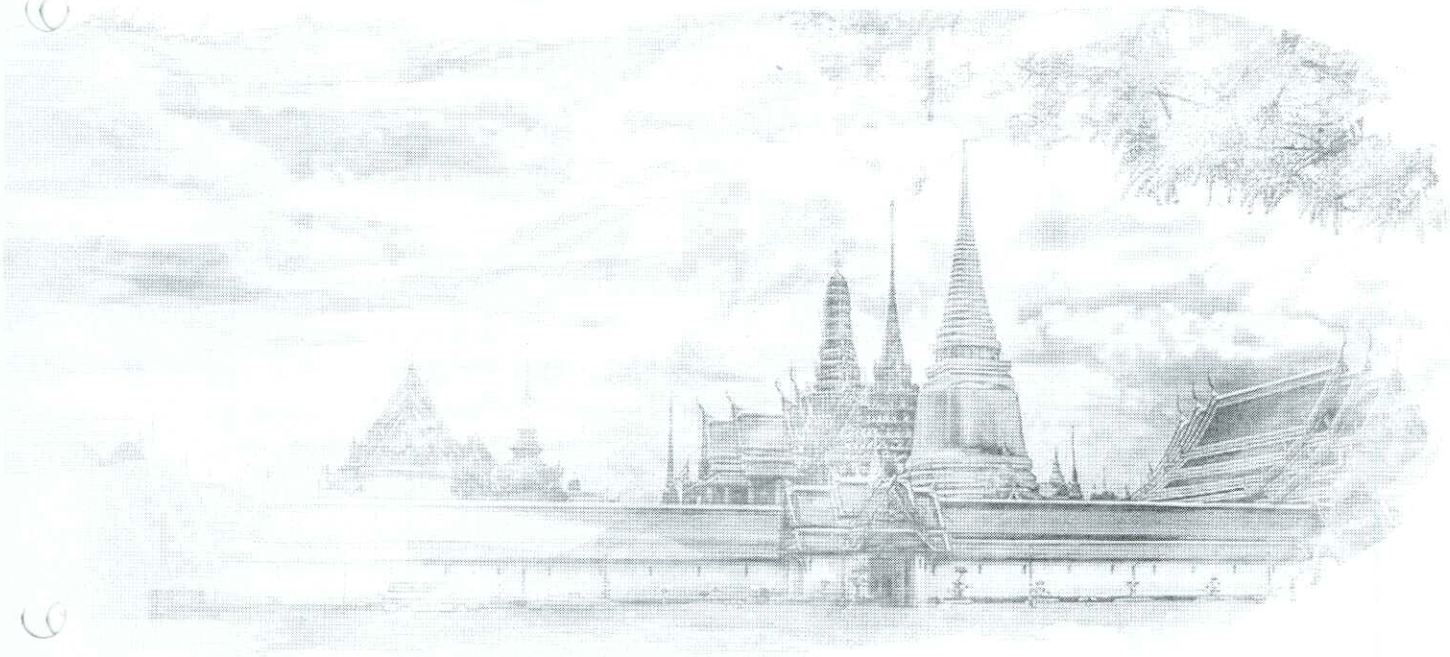
Abstract Book



"Crosstalk between Innate and Adaptive Immunity in Health and Disease"

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IN HEALTH AND DISEASE
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ABS127: A SIGNIFICANT ASSOCIATION BETWEEN TUMOUR NECROSIS FACTOR-ALPHA EXPRESSION AND THE DEVELOPMENT OF SEVERE CLINICAL OUTCOMES IN LEPTOSPIROSIS

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The immune response contributing to severe disease outcome of leptospirosis is not well elucidated. *Leptospira* induces Tumour Necrosis Factor-alpha (TNF-α) production which may contribute to disease severity. Study aimed to evaluate the role of TNF-α in the disease outcome of leptospirosis.

A prospective study was carried out for a period of one year in Sri Lanka. A total of 40 leptospirosis confirmed patients and 33 healthy individuals were included. Leptospirosis was confirmed by qPCR targeting *sec Y* gene of pathogenic *Leptospira* and human gDNA was subjected to PCR-RFLP to determine the TNF-α gene polymorphisms. TNF-α concentration of diseased and healthy individuals were determined by TNF-α ELISA.

The TNF-α serum concentration in patients ranged between 7.74-235.78pg/ml (mean - 48.10pg/ml) while in the healthy it varied between 6.15-57.14 pg/ml (mean - 25.12pg/ml). There was a significant increase in TNF-α concentration in patients compared to the healthy individuals (p=0.026). Further TNFαconcentration showed a significant difference among healthy individuals and patients with and without pulmonary haemorrhage(p=0.000) and patients with and without liver failure(p=0.026). When pairwise posthoc analysis was done using Bonferroni adjustment there was a significant difference among patients with liver failure and healthy individuals(p=0.040), with pulmonary haemorrhage and healthy individuals(p=0.007) and without pulmonary haemorrhage and healthy individuals(p=0.000). However there was no significant association between TNF-α gene single nucleotide polymorphisms (TNF-α -238, -308 and -863) and TNF-α production in patients.

This study demonstrated a significant elevation of TNF-α in patients with severe disease outcome.