OUR EXPERIENCE WITH EXPERIMENTAL *WUCHERERIA BANCROFTI* INFECTION IN INDIAN LANGUR (*PRESBYTIS ENTELLUS*)

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W. bancrofti accounts for more than 90% of lymphatic filarial infection in Indian population while *Brugia malayi* is restricted to few isolated pockets only. The difference in chemotherapeutic response and clinical expression of the disease between the two infections renders the experimental models of *Brugia malayi* not sufficient for studies on bancroftian filariasis. Animal model for *W. bancrofti* is therefore obligatory for drug development, diagnostics and devising strategies to combat clinical manifestations of human bancroftian filariasis. Several attempts were made in the past to establish *W. bancrofti* in laboratory animals including rodents and cats. However, reports on successful transmission of various strains of this parasite to a few species of macaques and leaf monkeys opened up new vistas in research on bancroftian filariasis. The establishment rate of parasite was however very poor unless the animals were on immunosuppressive therapy. Indian leaf monkey commonly called as 'langur' has earlier been found in our laboratory to be susceptible to subperiodic *B. malayi*. It was thought worth while to try this non-human primate species for experimental transmission of *W. bancrofti*. Infective larvae were recovered from mosquitoes (*Culex quinquefasciatus*) fed on human microfilaraemic blood and used for infecting langurs. Our findings indicated male langur to be significantly superior to female one as regards

to microfilaraemia and adult worm recovery. Recovery of sexually mature adult *W. bancrofti* was significantly higher than that reported earlier from *P. cristata* by Palmieri et al. (1982). Periodicity of microfilariae changed in this model with peak mf levels attained at 18.00 hr. Animals developed microfilaraemia within 195 and 240 days and demonstrated a definite pattern of filaria specific IgG and IgM antibodies irrespective of the number of larval inocula. Adult parasites contained a wide range of functional molecules eliciting antibody production. Apart from antibody production, strong cellular immune reactions were also noticed to certain molecules of adult parasites. These functional molecules need further purification and subsequent evaluation for the development of protective immune response. The prolonged microfilaraemia, centpercent infection intake, convenient mf assessment and high worm yield without any supportive immunosuppressive therapy make this model an attractive one for tertiary screening of antifilarials, for carrying out immunopathological studies and evaluation of protective candidate molecules. Recovery of adult parasites of target lymphatic filariid from langur monkey gives ample opportunity to work with the target parasite material for constructing cDNA library and working on molecular immunological aspects of the disease.