

## **Endeavor to Develop Immunological and Hematological Early Diagnostic Marker to Check the Conversion of Asymptomatic to Symptomatic Visceral Leishmaniasis**

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**Abstract :** A diagnostic marker for asymptomatic subject becomes a crucial need for advocating early prophylactic majors to control protozoal infection. The main issue in epidemiological affected regions is the presence of an asymptomatic individual that might potentially convert to a symptomatic visceral leishmaniasis (VL). The epidemiological study has been conducted at highly VL endemic Moriyama village in Patna district, Bihar, India that covers total population of 1540 individuals. Here, 1104(74.02%) people had been randomly screened and only 46 (4.17%) asymptomatic individuals were found sero-positive by the rK39 test. After taking signed informed consent form, blood samples were collected from 46 asymptomatic subjects for further hematological and immunological tests. Total leukocyte count, hemoglobin (gm%), neutrophil, lymphocyte, platelet count and interleukin-10 (IL-10) had been included as diagnostic markers. Interestingly only 5 (10.86%) individuals showed their asymptomatic conversion into symptomatic VL patients during quarterly surveillance. In overall analysis only two markers are suggestive for disease conversion that is hemoglobin (gm%) and IL-10. In all the infected patients, both the mean decrease in hemoglobin and mean increase of IL-10 was 19.23% from its normal value. The results might suggest that hematological and immunological changes would become helpful for early diagnosis of asymptomatic to symptomatic VL conversion.

**Keywords :** asymptomatic, epidemiological, symptomatic visceral leishmaniasis, hemoglobin (gm%), interleukin-10, diagnosis

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