

HUMAN MALARIA: EVALUATION OF SEROLOGICAL TESTS IN SEROEPIDEMIOLOGICAL SURVEYS, INDIVIDUAL DIAGNOSIS AND FOR BLOOD BANKS SCREENING.

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In spite of the realizations of the campaign to eradicate malaria, it remain with a high prevalence, specially in the tropical areas, keeping high and constant rates in Tropical Africa, and returning in areas where it was eradicated. According to available data 300 million cases/year occurs. This fact has important social and economic evidences.

In Brazil, malaria represents one of the most serious problems in Public Health, mainly in equatorial zone, although it has been eradicated in areas with higher density population and higher economic development.

The Amazonic Region constitutes an area where the eradication is possible only in a long term due several factors that difficult the combat against malaria and helps its transmission. Among there are, low population density, the population spread, nomadism, difficult access to the affluents or the big rivers in draught periods, flood in meadows and constant fluxes migration coming from areas without transmission. The factors that enable the transmission of malaria are the humidity, temperature and rains that gives life and development for the vectors. Also poor housing in the region contribute and does not require that the vectors be domesticized and favour the action of the mosquitoes. Amazonia also faces technical problems relative to parasites to the control of vectors and to humans. The frequencies of resistant *P.falciparum* strains have been growing and becoming very important. Even with vectors susceptible to DDT, we have places where houses haven't walls, and malaria continues to be transmitted because there aren't surfaces to be sprayed. The man has a great influence in malaria epidemiology. The stimulation for Land and Cattle enterprising, the construction of roads and Hydroelectric plans, and mining projects and colonization attracted a large number of individuals (susceptible and infected) thus establishing epidemic points. Almost always part of the migrating population returns to there place of origin, being necessary a well structured vigilance program in order to avoid the dissemination of the disease in places where has already been eradicated.

Malaria is therefore a disease in expansion. In 1987, were detected 510.000 new cases in Brazil. As 15.000.000 peoples lives in endemic areas this numbers tends to increase principally due the intense rush in perspectivly gold and other mineral resources.

The demonstration of malaria parasites in thick blood films collected either from the population in general or from febrile individuals is the primary means of assessing malaria endemicity and estimating the effectiveness of control measures in a particular area. Falses negatives results may occurs in the parasitological method with low parasitemia, in semiimmune individuals and when antimalarial drugs were used. For seroepidemiological surveys the long time required for slides examination is the limiting factor.

Transmitted by vectors Anopheles sp, by blood transfusion or congenitally, malaria is terrible in people that migrate from the south to endemic areas, mainly because they are immunologically unprotected. It is very important that steps would be adapted to combat the disease. Enter these, the serology have a great participation, because it is abble to:

- identify species of infected mosquitoes;
 - detect present and previous infection;
 - evaluate the protective host immunity;
 - deliniate malaria areas transmission and
 - evaluate the therapeutic employed.
- various methods have been used to detect antimalarial antibodies including indirect immunofluorescence (IFI), haemagglutination (HA), immunoenzimatic tests (EIA), complement fixation tests (CFT). IFI is the reference test for individual diagnosis of malaria as well as in the assessment of malaria prevalence in a given geographical area in serological surveys. In our laboratory we standardized the test with P.falciparum infected red cell obtained in "in vitro" and P.vivax from human infected red cell as antigen for detection of IgG and IgM antibodies. Other study was carried on for EIA. The ELISA test was standardized with P.falciparum infected red cell extract as antigen. The results obtained showed that the ELISA test must be an alternative for IFI in the sorology of malaria when applied for seroepidemiological surveys, blood banks screening or individual diagnosis.