Biological vaccine for human leishmaniasis

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A research executed in the Autonomous University of Yucatan (UADY) has successfully proved, in test animals, the effectiveness of a vaccine that immunizes the organism against leishmaniasis, an ailment transmitted through insects very similar to mosquitos and mainly presents symptoms in the skin, liver or spleen.

Head of the project, Eric Dumonteil, says that this research represents an important leap forward in the fight against a disease that causes 70 thousand deaths a year in developing countries.

To create the immunizer, researchers isolated the genes of the protozoon responsible of causing leishmaniasis, using a molecular biology technique to code the proteins responsible of the protective response in vaccinated individuals.

Dumonteil pointed out that this pathogen hides within the cells of the immune system getting to manipulate and avoid it without being eradicated using conventional techniques.

The project was accomplished in the Parasitology Lab from the Center of Regional Research "Dr. Hideyo Noguchi" where the genetically created vaccine was subcutaneously administered to mice.

The results allowed to observe that after four weeks the rodents have already developed antibodies and, after 8 weeks, the cellular immune response and the production of defensive substances were present in great quantity.

Four weeks after the dose, the researchers infected mice with the parasite responsible of transmitting leishmaniasis and observed a survival of 80 per cent of the experimental group.

The clinic manifestations of the disease vary from mild skin lessions to intestinal complications that can end the life of the patient. In Mexico, the southeast region is where most of the cases of leishmaniasis have been registered, were the disease is considered endemic.

Currently, the research group is testing dogs, which also are reservoir of the parasite and the presence of infected canines in a determined are can make people to suffer the disease more frequently.

Dumonteil from the Parasitology Laboratory highlighted that the

possibility of a technological transference to a lab that allows to transfer the results of this research to a clinical praxis is being considered, as well as increasing the efficiency of the strategy with immune response boost drugs.

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