asymptomatic but still shedding oocysts. Overall, about the same number of oocysts were detected at the second exam as were seen 3 months previously. In an effort to determine whether animals served as reservoir for human infection, stool samples were collected from domestic animals living in the immediate area of infected humans, including cattle, horses, goats, pigs, guinea pigs, turkeys, chickens, ducks, and pigeons. Although various coccidian oocysts were observed, *Cyclospora*-like oocysts were detected in only one pig. However, because of the dietary habits of pigs, including coprophagy, it seems likely that this constituted a spurious infection. In Haiti, it would appear that *Cyclospora* is a common, endemic parasitic infection, is not confined to the HIV-infected population, and does not result in diarrhea in a large segment of the population. Ongoing studies are designed to answer questions about seasonality of transmission and whether first exposure early in childhood results in symptomatic infections with excretion of larger numbers of oocysts.

476 HIV/CHAGAS ASSOCIATION IN BRAZIL: IMPACT ON CLONAL DIVERSITY OF *TRYPANOSOMA CRUZI*. Perez-Ramirez L*, Barnabé C, and Tibayrenc Michel Centre D'Etudes sur le Polymorphisme des Microorganismes, ORSTOM/CNRS9926, Montpellier, France.

The goal of our work was to estimate the specific impact of HIV immunodeficiency on the clonal diversity of *Trypanosoma cruzi*, the agent of Chagas' disease. Ninety *T. cruzi* stocks isolated from 28 HIV (+) patients and 16 HIV (-)patients were analyzed by multilocus enzyme electrophoresis (MLEE). Clinical forms of reactivation tend to be associated with a very high parasitemia levels and suggest a major role of the parasite. On the other hand, MLEE analysis showed that whatever the immune status of the patients, *T. cruzi* stocks from HIV+ patients can be attributed to formerly-described clonets 30, 32, 39 and 43 (1). So it appears that there activation observed in HIV positive patients is not associated to specific genotypes that would be found only in HIV (+) patients. A high linkage disequilibrium, which is considered as a classical circumstantial evidence for clonality, was apparent within the stocks from all the patients, either HIV (+) or (-). This clonal population structure was present in either HIV+ or HIV (-) patients. No correlation between clinical forms of Chagas disease and specific *T. cruzi* clonets was observed.

477 CHARACTERIZATION OF AN *ANOPHELES GAMBIAE* MIDGUT PROTEIN AS A TARGET FOR THE DEVELOPMENT OF AN ANTI-VECTOR VACCINE. Foy BD*, Killeen GF, Mackay AJ, Noden BH, Grab DJ, and Beier JC. Department of Tropical Medicine, Tulane University, New Orleans, LA; and Department of Microbiology and Immunology.

The mosquito midgut is the site for bloodmeal digestion and also serves asan entry way for many pathogens into the vector. Antibodies designed against molecular targets in the midgut could be ingested with the bloodmeal and adversely affect the mosquito and/or prevent infection of the vector by the pathogen. We had previously generated anti-sera to*Anopheles gambiae* midguts in rabbits, which killed 71.6% of *An. gambiae* within 7 days of ingestion. Killing activity was related to failure of the mosquito to absorb components of the bloodmeal. Western blots and ELISA assays indicate that the midgut antigen responsible for the killing affect is a protein around 43kDa. The mortality may be IgG mediated, yet the killing activity of serum is not eliminated after protein A and protein G-sepharose fractionation. We are in the process of further testing the serum and isolating the protein, as well as immunizing rabbits with partially purified protein. This antigen could be a critical protein for mosquito digestion or absorption. Its characterization could be an important step in the development of anti-vector vaccines.

478 MOLECULAR BASIS OF THE ADHESIVE INTERACTION BETWEEN *PLASMODIUM GALLINACEUM* OOKINETES AND THE *AEDES AEGYPTI* MIDGUT EPITHELIUM. Zieler H* and Shahabuddin M. Medical Entomology Section, Laboratory of Parasitic Diseases, National Institutes of Health, Bethesda, MD.

Immediately after leaving the bloodmeal and crossing the peritrophic matrix within the gut lumen of a mosquito, *Plasmodium* ookinetes encounter the midgut epithelium, which they subsequently invade. The molecular basis of how the parasites recognize the midgut tissue is unknown. We have developed a system to study the adhesion between *P. gallinaceum* ookinetes and *Aedes aegypti* midgut epithelia *in vitro*. Fluorescently labelled ookinetes are centrifuged at low speeds together with isolated midgut epithelia from bloodfed mosquitoes. The ookinetes bind in large numbers to the midguts and preferentially adhere to their microvillar side. This interaction seems to be specific: ookinetes bind to the microvillar side of midguts at much higher rates than to other mosquito tissues, and the binding is not competed by high concentrations of non-specific competitor proteins such as fetuin, bovine serum albumin, orosomucoid or ovalbumin. Other cell types, such as untransformed zygotes, rarely bind to the midguts. Pre-treatment of the midguts with sodium periodate at pH 5.5 destroys adhesion, suggesting that the ookinete recognizes carbohydrates on the surface of the midgut. Periodate concentrations of less than 1 mM are sufficient to reduce midgut binding, which may imply that sialic acid residues constitute part of the carbohydrate ligand bound by ookinetes. Treatment of the midgut epithelia with neuraminidases also reduces ookinete binding, and binding is effectively competed by sialic acid-specific lectins and high concentrations of N-acetyl-neuraminic

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Disney's Coronado Springs Resort
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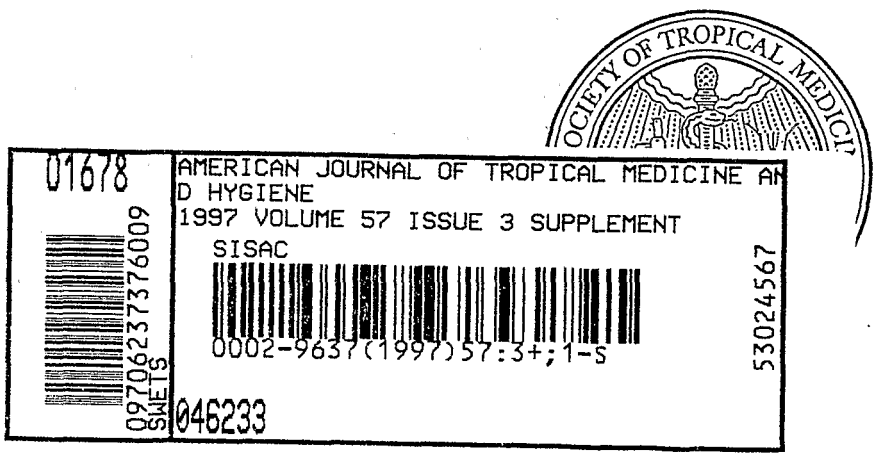

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