and post hoc Tukey test. Statistical analysis of survival time was carried out with Kaplan-Meier (Log-Rank) test.

Results: The immunized mice with this DNA vaccine presented an important reduction in diameter of lesion and increasing of weight compared to the control mice and was indicated a significant difference between the immunized group and the control groups ($p < 0.05$). The survival time of the immunized mice was significantly higher than the control groups ($p < 0.05$) after challenge with Leishmania major. The immunized mice had significantly lower parasite load compared to the control mice ($p < 0.05$).

Conclusion: The findings of this study, indicated that the TSA - encoded DNA vaccine induced protection against infection with Leishmania major in mice. In this study, we demonstrated that, the TSA -encoded DNA vaccine may be an excellent candidate for futher vaccine development.

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HIV-associated Cutaneous Dissemination of Visceral Leishmaniasis, Despite Negligible Immunodeficiency. Failure of Liposomal Amphotericin B Administration, Followed by Successful Pentamidine-Paromomycin Administration

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Background: In endemic countries, Kala-Azar (K) acts as an opportunistic infection, when a deep HIV-related immunodeficiency is present; infrequently, a cutaneous spread was described. Case report. An atypical episode of HIV-associated K complicated by a diffuse, aspecific macular-papular cutaneous involvement was characterized by absent epidemiological clues, a prolonged course, and no response to repeated cycles of liposomal amphotericin B (lAB), despite a CD4+ lymphocyte count >500 cells/μL, maintained thanks to a concurrent antiretroviral treatment. Despite a negligible immunodeficiency, K serology proved negative.Only a prolonged administration of the second-line i.v. pentamidine (12 weeks), together with oral paromomycin (7 weeks), led to a cure of K and its related skin dissemination, in absence of toxicity and disease relapses.

Discussion: The differential diagnosis of skin dissemination of K (which may appear as single, multiple, or disseminated macules, papules, plaques, nodules, ulcers), enters in a broad spectrum of possible HIV-associated complications, and may be the clue of a missed K, so that a biopsy with histopathology-culture becomes mandatory, since serology is not reliable also when immunodeficiency is limited. The first-line treatment of HIV-associated K is debated. Pentavalent antimony compounds were the mainstay in the past 70 years, but lAB seems effective and safe, especially when administered in short courses. Like in our case, failure of AB in treating K was anecdotally documented. In our particular episode, a prolonged pentamidine-paromomycin treatment became necessary, after multiple failures of lAB. An effective antiretroviral therapy may restore the immune function and significantly help anti-protozoal treatment, but it was not the case of our patient, who was virologically suppressed and reached a CD4+ count of >500 cells/μL before of the cutaneous spread. Also in the HAART era, clinicians facing patients with a well controlled HIV disease, should carefully assess a non-specific rash, which may enter in differential diagnosis with an elevated number of infectious, allergo-toxic, and dysreactive disorders. Randomized clinical trials are needed to aid selection of therapeutic regimens of K with/without a concurrent immunodeficiency, and with/without cutaneous-other complications, due to the increased frequency of both K and HIV disease, especially in developing countries.

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Use of *Toxoplasma gondi* Specific IgG Avidity Assay for Diagnosis of Acquired Toxoplasmosis in Pregnant Women

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Background: Fetal infection by *Toxoplasma gondii* develops when non-immune mother becomes infected during pregnancy. Accurate dating of infection is mandatory to prevent complications. *T.gondii* IgM persists in serum for months after infection, hence, not suitable as an evidence of recent infection, beside its lack of specificity. *T.gondii* IgG avidity assay is expected to distinguish recent and past infection. High avidity excludes recent infection in the preceding 16—20 weeks, while low avidity doesn't differentiate recent from old infection. This study evaluated the use of IgG-avidity assay and IgG and IgM to detect recent toxoplasmosis in early pregnancy.

Methods: Sera from 2070 asymptomatic Saudi Arabian pregnant women at different gestational stages were first screened for *T.gondii* IgG by indirect hemagglutination test (Toxocell IHA, biokit, Spain). Enzyme linked fluorescent assay (ELFA, VIDAS, BioMerieux, France) was used to detect *T.gondii* IgM and to measure total IgG and IgG-avidity index (AI).

Results: Out of 401 IHA-positive sera, 151 (37.7%) samples were positive for *T.gondii* IgM, among which AI was low in 17 samples (11.3%), intermediate in 1 (0.6%), and high in 133 samples (88.1%). The possibility of recent infection in IgM-positive sera was excluded with a high IgG AI (95% CI, 83—93%). High AI was shown in 97.8% of IgM-negative sera. These finding minimized the value of a positive IgM finding as single indicator for acute recent infection. Actually, it highlighted the value of IgG avidity assay to exclude recent infection. No significant correlation between level of IgG, and presence of either low or high AI; or between IgG level and presence of IgM in serum ($r \approx 0.092$) ($p < 0.05$.).

Conclusion: For early diagnosis of *T. gondii* infection, pregnant women should be initially screened for IgG, to determine the patient's immune status; followed by IgM assay of IgG-positive sera. Absence of serum IgM excludes