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SCHISTOSOMA MANSONI – NZ RABBIT-MODEL: RESISTANCE DUE TO INFECTION AND ACTIVE IMMUNIZATION WITH ADULT WORM ANTIGEN

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Resistance induced in outbred mice and rabbits by immunization with a mixture of live adult worm antigens, mildly released by incubating the parasites in saline (SE), was previously reported (Tendler et al., 1982, *Mem. Inst. Oswaldo Cruz, 77:* 275-283; Tendler, 1985, Ph. D. Thesis, UFRJ, p. 86) and is belived to be based on the combined (both cellular and humoral) immune response, expressed by vaccinated aninals. Both mice and rabbits, inoculated by the subcutaneous/intradermal route with SE in Complete Freunds Adjuvant (CFA), mount a polyspecific response to this antigens (Tendler et al., 1986, *Int. J. for Parasitol., 16:* 347-352).

Different experimental protocols are in course, focusing on the rabbit-*S. mansoni* model, that is being studied for induced resistance with different immunization schemes. Concomitant immunity was the first immune mechanism investigated in this association and a peculiar form of response to cercarial infection was observed (Almeida et al., submitted).

The present note refers to data that resulted from experiments addressed to answer the question if active immunization with a protective antigenic mixture could replace challenge infection stimulus and promote a similar response.

Five experimental groups (3-5 animals/group) of NZ rabbits were infected percutaneously (ring method) with 1000 cercariae of *S. mansoni*/animal. Three out of these groups were reinfected with the same number of cercariae at days 15, 30, 60 after primary infection, respectively. Two other groups, were immunized at days 30 and 60 after primary infection. Immunization consisted of 2 weekly footpad injections/animal, of 0.6 mg of SE in CFA, Difco, containing 1 mg/ml *M. tuberculosis;* 21 days after the second injection, the animals received an i. p. dose of 1 mg SE.

Seven control groups were sex and age matched to experimental ones and infected simultaneously by same route, number and cercarial pool.

Rabbits were sacrificed always at day 60 after reinfection or immunization. Adult worm burden evaluation was performed by perfusion of portal and mesenteric veins and the degree of protection of immunized and reinfected groups, was calculated as follows: $P = C - V/C \times 100$, where P = % protection; C = mean number of parasites recovered from control rabbits; V = mean of parasites recovered from reinfected or vaccinated rabbits.

Reinfected animals (30 and 60 days after primary infection) showed ability in "killing" worms from their primary infection and challenge parasites. In reinfected animals worm burden reduction of both primary and secondary infection was 61% and 92% respectively for 30 and 60 days assays. When reinfection was substituted by SE immunization, at the same periods of time, adult worm reduction was 88.3% and 40%, for 30 and 60 days infection periods prior to immunization respectively.

The objective of the experiments partially reported herein, was to compare resistance levels induced by reinfection vs. immunization with protective antigens in the rabbit model. More extensive protocols are presently in progress to accomplish the understanding on diversity of the models.

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