

ROLE OF COMPLEMENT IN *Trypanosoma cruzi* BLOODSTREAM TRYPOMASTIGOTES CLEARANCE

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Participation of antibodies in resistance against *Trypanosoma cruzi* has been clearly demonstrated by protection after passive transfer of immune serum or its IgG fraction.

Evidence was also provided that these antibodies are necessary for the clearance of parasites from the blood.

In this communication we report results of experiments trying to explain the mechanism of clearance of bloodstream trypomastigotes of *T. cruzi* (Btrys) in mice.

Passive transfer of immune serum or its IgG fraction (obtained from mice chronically infected with *T. cruzi*) to mice containing circulating Btrys, induced a very fast clearance of the parasites that was similar in normocomplementemic and C₅ deficient mice.

IgG fraction obtained from immune serum was very efficient in inducing complement mediated lysis and immune clearance of Btrys whereas its F(ab')₂ fragments although able to induce lysis were unable to induce clearance. These results prompt us to suggest that the immune clearance of Btrys is dependent on the antibody Fc region.

Experiments with mice depleted of C₃ by treatment with CVF, showed that the immune clearance of Btrys induced by anti-*T. cruzi* antibodies was completely abolished in the absence of C₃ suggesting that this component is required for the removal of Btrys from circulation.

In vitro experiments with whole blood or its fractions showed that the platelets were able to induce lysis of Btrys in presence of antibody and complement. A significant diminution in the number of circulating platelets was observed during the clearance of Btrys. Furthermore, removal of platelets from the peripheral blood by treatment with anti-platelet IgG antibodies resulted in a significant diminution in the Btrys clearance. However, the interpretation of this result is complicated by a simultaneous reduction in the complement system due to formation of Ag-Ab complexes (platelet-anti platelet).

Anyway, these results suggest that complement and platelets may be involved in the removal of the Btrys from circulation and may have an important role in the physiopathology of *T. cruzi* infection.