

SEROLOGICAL RESPONSE IN GOEATS IMMUNIZED WITH EXTACTS OF BOOPHILUS MICROPLUS

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ABSTRACT

The present piece of work is a result of observation done on the host parasite relationship which is largely based on the physical and biochemical intimacy between both the partners.

KEYWORDS : Ticks, host , biochemical factors, antibodies

Host bio chemical intimacy between both the partners. Piercing and sucking type mouth parts of ectoparasites help in this relationship, but the pH and chemical composition also plays important role in this aeti hormonal variations and induced changing of blood due to presence of salivary and other toxic materials injected by the parasites wich stimulates the immunity system of host .Antibodies production along with increased temperature make the hosts blood unfit for the parasites to some extent. Hence, ew born calves pregnant females' are not prefered by the ectoparasites until their comeback as an individuals of normal blood composition. The temperature, changed blood pH and enormous number of antibodies are collecting used as defence device by the hosts against the arthropod parasite (particularly) the ticks & mites.

MATERIALS AND METHODS

The present study deal s with qualitative analysis of antibodies following immunization with different antigens of B.microplus .Engorged female ticks of B microplus were collected from infested goats and were kept in Petri-dishes to specimen tubes for hatching. The larva and other stages of the ticks were fed on goats by the ear- bag method. All the stages of the tick were kept in a desiccators containing saturated potassium chloride soln.

The egg antigen was prepared as per method of RICK(1958). The larval and nymph antigens were prepared according to the procedure of Askenase et.al (1982) te adult antigen was prepared by te method of Mc Gowon et.al (1980). All the antigens were preserved separately in 1:10.000 merthiolate at-20C until further use . the protein content of each antigen was determined by method of lowry et. Al(1951)

OBSERVATION

The male goats were selected and divided in to 4 group of 4 animals each .Immunized goats received !.5mg of protein /Kg body weight as recommended by Mc m .Gown et. Al (1980). From each group 3 goats received treatment; 1 goat served as control. The schedule of immunization is shown in table 1. Controls in each group received similar amount of phosphate buffer instead of respective antigens . the immunized goats were challenged 7 days after secondary immunization with 300 larvae , 50 nymphs,10 adults and 25 adults in group 1,2,3 and 4, respectively. Serum sample were collected from all the goats. Including control, before immunization15 days after ist immunization the total immunoglobulin's were estimated by zinc sulphate turbidity test(ZST) as per the method. Mullen (1975). The data were analyzed using "t test as per the method of snedcor and Cochran (1976).

RESULT AND DISCUSSION

In the present study the different immunoglobulin levels have been estimated immunized goats with antigens of different stages followed by challenge with subsequent stage of the tick so as to observe the protective response. The study showed increased level of IgM, IgG and total immunoglobulin in the era of goats immunized with different antigens of B.microplus.

CONCLUSION

The increased level of immunoglobulin's after secondary immunization in the present experiment may be due to an anamnestic reaction as a result of repeated inoculation of antigens . Further, low level Immunoglobulin's in challenged animals might be due to

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Table 1 : Immunization of Goats With Different B. microplus Antigens

| Groups | Immunization | |
|--------|---|---------------------------|
| | Primary (on day 0)(p1) | Secondary(on day15) (s1) |
| 1 | 2.25 ml of egg antigen | 2.225ml of egg antigen |
| 2 | 2.00 ml of larval and 2.00 ml of friends adjuvant (FCA) | 2.00 ml of larval antigen |
| 3 | .50ml of adult antigen and 2.00 ml of FCA | 2.00 ml of adult antigen |

PI = Primary infestation; SI = secondary infestation

the persistence of antibodies only for shorten duration as observed by Fujisaki(1978) who reported similar responses in rabbits reinvested with H.eong I cornis.

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