

## **Comparative antibody response of albino rats infected with *Trypanosoma brucei* via intraperitoneal and intradermal routes**

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### **Abstract**

The antibody responses of albino rats infected with *Trypanosoma brucei* via the intraperitoneal (IP) and intradermal (ID) routes was investigated and compared. A total of twenty-five adult male albino rats were used. The rats were randomly assigned to three groups (A, B, and C) comprising five rats in group A, and ten rats each in groups B and C respectively. Group A (uninfected control) were sensitized with washed sheep Red Blood Cells (wSRBC) at day 0. Group B was divided further into groups B<sup>1</sup> and B<sup>2</sup> and infected intraperitoneally (IP) and intradermally (ID) with  $4 \times 10^5$  *Trypanosoma brucei* respectively, and then sensitized with wSRBC at day 0, and monitored. Group C was also divided further into groups C<sup>1</sup> and C<sup>2</sup> and infected IP and ID with  $4 \times 10^5$  *Trypanosoma brucei* respectively at day 0, and then sensitized with wSRBC at day 2 and boosted at day 14 post sensitization and monitored. Level of parasitaemia (LOP), haematological indices (PCV, total WBC and differential WBC counts), rectal temperature and antibody response to wSRBC were used to compare the antibody responses via these routes of infections. Parasitaemia was recorded 3- and 5-days post infection via IP and ID routes respectively in rats sensitized at different times. There was a significantly higher ( $P < 0.05$ ) parasitaemia in rats infected IP when compared to rats infected via ID route. The haematological indices of rats infected via ID routes were better than that of those infected via IP routes. In conclusion, the ID route of infection showed a higher antibody response which was maintained over a longer time when compared to the IP route.

**Keywords:** antibody response, intradermal/intraperitoneal infection, *Trypanosoma brucei* *brucei*, rats

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