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Effects of Anti-Mosquito Salivary Glands and Deglycosylated Midgut Antibodies of Anopheles stephensi on Fecundity and Longevity

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Abstract:

With the aim of controlling malaria by reducing vector population, the effects of antibodies produced against salivary glands and deglycosylated midgut antigens of Anopheles stephensi mosquitoes on fecundity and longevity of the same species were tested. Three deglycosylated preparations of midgut and two preparations of salivary glands were produced, conjugated with aluminum hydroxide gel, and subcutaneously injected to shoulders of TO (Turner Out-bred) mice. After 4 immunizations and assurance of enough antibody production against utilized antigenic suspensions, effects of blood feeding on immunized and control mice were assayed. Insoluble preparation of midgut showed the strongest effect with 23.5% reduction in egg laying, and increasing death rate of vectors in third day after feeding. No significant reduction in fecundity or survivorship was seen with other preparations. Anopheles midgut insoluble antigens are potential candidates for designing vaccines against malaria vectors and further investigations need to be done to find effective antigens and the best way of their use.

Keywords:

Longevity ، Fecundity

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