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Impact of *Biomphalaria alexandrina* snails' age on transmission of *Schistosoma mansoni*: Modulation of the genetic outcome and the internal defense system of the snail

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) iomphalaria snails display different compatibility patterns to Schistosoma mansoni infection. The current study was Biomphalaria snails display different compationity patterns to compatibility and internal performed to elucidate the impact of *Biomphalaria alexandrina* snails' age on their genetic variability and internal defense against Schistosoma mansoni infection, using parasitological parameters and cytosolic superoxide dismutase enzyme assay. Susceptible and resistant snails were reared singly for self-reproduction. Of their progeny, four experimental subgroups underwent the present study being; young susceptible, adult susceptible, young resistant and adult resistant. Young susceptible subgroup showed the highest susceptibility with shortest pre-patent period, highest infection rate, highest total cercarial production and least superoxide dismutase activity. Moreover, 8%, 26% resistant members were obtained among young and adult susceptible subgroups, respectively, indicating inheritance of resistance alleles from their parents. Adult resistant subgroup contained only resistant members and showed the highest superoxide dismutase activity, compared to young resistant subgroup which contained 37% susceptible members, with less enzyme activity. The significant differences in parasitological and biochemical parameters between young and adult snails in the same group were attributed to age effect that made the resistance alleles more functioning with higher cytosolic superoxide dismutase enzyme activity in adult snails. Moreover, the complex interaction between age, genetic background and internal defense system between susceptible and resistant subgroups has resulted in great variability in their compatibility patterns. Herein, the presented results could provide potential epidemiological implications in Biomphalaria control. Identification of the most susceptible snail's age determines the best timing for applying molluscicides. Moreover, adult resistant snails could be benefited of in biological snail control.

Biography

Iman F Abou-El-Naga has done her MBChB in 1981, Master's Degree in Medical Parasitology in 1986 and PhD in Medical Parasitology all from Alexandria University in 1992. Currently, she is working as a Professor in Medical Parasitology Department, Alexandria University. She has published more than 22 papers in reputed journals and is serving as an Editorial Board Member of Alexandria Journal of Medicine.

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