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Comparison of circulating cathodic antigen cassette test and real time PCR in diagnosis of *Schistosomiasis mansoni* with different infection intensities

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Objective: To compare the performance of urine circulating cathodic antigen (CCA) cassette test and real time PCR cycle threshold values in cases of *Schistosomiasis mansoni* of different infection intensities.

Method: Stool and urine samples were collected from 110 school children after obtaining the consent of school guardians and children's parents. Stool samples were microscopically examined using double Kato slides (41.7 mg each). Midstream urine specimens were tested for *Schistosomiasis mansoni* by using CCA and were tested for *Schistosomiasis haematobium* by filtration technique. Part of each stool sample was kept at -20 °C and further processed by SYBR Green PCR.

Result: All the examined cases were negative for *Schistosomiasis haematobium*. In spite of the high prevalence of *Schistosomiasis mansoni*, the majority of children had light infection intensity (64.3%) as estimated by Kato-Katz. The highest infection rate of *Schistosomiasis mansoni* was detected by real time PCR (82.7%), followed by CCA test (60%) while the lowest infection rate was diagnosed by Kato-Katz (50.9%). The three tests showed similar performance in moderate and heavy infections. On the contrary, among the 54 negative schistosomiasis individuals after Kato-Katz, real time PCR diagnosed higher positive cases (70%) in comparison to CCA (22%). Cycle threshold values higher than 25, suggest the absence of heavy infection.

Conclusion: Real time PCR was the most detector of positive *Schistosomiasis mansoni* cases missed by Kato-Katz and CCA test and it would enhance the effectiveness of surveillance and control programs of schistosomiasis. To detect low infection intensity and missed cases after Kato-Katz, it is recommended to increase the cycle threshold during application of real time PCR to 40 cycles.

Biography

Amal Farahat Mohamed Allam is an acting Dean of medical Research Institute, Alexandria University he is also the Vice Dean of community service and environmental affairs & Professor of Parasitology in Parasitology Department. She published her papers in many international Journals. She participates in many national health education campaigns and help in the treatment of poor population.

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