Ginger and Cinnamon: Can This Household Remedy Treat Giardiasis? Parasitological and Histopathological Studies

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Abstract:

Background: Giardia lamblia is one of the most common protozoal infections in human especially children. Metronidazol (MTZ) is the drug of choice for treatment of giardiasis; its chemical composition possesses major threats and is becoming less sensitive. This study aimed to search for natural extracts alternative to MTZ. Methods: In-vivo effects of dichloromethane extracts of ginger and cinnamon in doses of 10 and 20 mg/kg/day separately were studied on 30 experimentally infected albino rats divided into 6 groups (5 rats each). Plant extracts were started on the 6th day post infection for 7 successive days. The study was evaluated by fecal cyst and intestinal trophozoite counts, histopathology, scanning and transmission electron microscopic examinations of the small intestinal mucosa. Results: Ginger and cinnamon caused reduction of fecal cyst and trophozoites counts. Histopathology, scanning electron microscopy (SEM) and transmission electron microscopy (TEM) after exposure to each extract revealed evident improvement of intestinal mucosal damage produced by G. lamblia infection and direct structural injury to the trophozoites. However, these results were more obvious after exposure to cinnamon extracts. Conclusion: We confirmed the potential therapeutic effects of ginger and cinnamon extracts on G. lamblia infection in albino rats as a promising alternative therapy to the commonly used antigiardial drugs.

Keywords:

Giardia, Ginger, Cinnamon, Intestinal-histopathology, Electron microscopy

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