Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 47-52

In Vitro Effect of Folic Acid and Cobalamin (Vitamin B12) on Adhesion and Growth of Giardia lamblia

R Khademi, F Ghaffarifar, H Dalimi Asl

Abstract:

Giardia lamblia is one of the most common intestinal protozoan parasites infecting human in the world. The goal of this study was searching for in-vitro effect of folic acid and cobalamin on adhesion and growth of G. lamblia as two important mechanisms in the pathogenesis in TYI-S-33 medium. G. lamblia trophozoites were obtained by in- vitro excystation procedure. Three groups of Giardia trophozoites were analyzed: control group, G.lamblia was cultured in TYI-S-33 without any vitamin, 2nd group with 0.1 µg/ml vitamin B12 or folic acid, and 3rd group with 0.5 µg/ml of vitamin B12 or folic acid. All culture media tubes incubated at 37 ºC. After 2 h of incubation, the adherence into borosilicate culture tubes, and after 24 h the growth of trophozoites were measured .The results showed that in vitamin B12 groups, the growth was increased significantly (P≤ 0.05) but the adherence decreased significantly (P≤ 0.05). Folic acid inhibited the growth rate significantly (P≤ 0.05), but it increased adherence in axenic culture significantly (P≤ 0.05). The results showed that vitamin B12 and folic acid altogether might reduce pathogenesis of G. lamblia by reducing adherence and growth, respectively.

Keywords:

Giardia lamblia ، Cobalamin (Vitamin B12)

TUMS ID: 2893

Full Text HTML Full Text PDF 191 KB

top