

The potential role of vitamins in the management of Chagas disease

Shailendra Kapoor^[1]

Dear Editor,

In their recent article, Gusmão et al. provided interesting data¹. Vitamins may play a significant role in ameliorating the pathological effects of Chagas disease. For example, benefits have been observed following the administration of ascorbic acid; supplementation with high doses of vitamin C have led to augmented clearance of trypanosomes, especially trypomastigotes². Interestingly, the activity of ascorbate peroxidase is enhanced significantly by vitamin B12, and vitamin C augments the anti-parasitic activity associated with vitamin B12. Another recent study suggests that the combined use of gentian violet, ascorbic acid, and light to sterilize blood infected with *Trypanosoma cruzi* effectively prevents transfusion-based transmission of Chagas disease³. Other similar, recent data suggest that vitamin B12 may be of clinical value in the treatment of Chagas disease; vitamin B12 activity against trypomastigotes and epimastigotes is particularly significant⁴. Vitamin B12 mediates this anti-parasitic role by accentuating superoxide dismutase activity, which leads to augmented intracellular production of reactive oxygen species.

The above discussion points highlight that the combined use of vitamins C and B12 may play a significant role in the management of Chagas disease.

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[1]. Private Practice, Mechanicsville, Virginia, USA.

Address to: Dr. Shailendra Kapoor. 2400 Cary Street Mechanicsville, Mechanicsville 23111 United States.

Phone: 1 865 4563456

e-mail: shailendrakaapor@yahoo.com

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Author's reply: Mechanisms of action of vitamins in the pathogenesis of Chagas disease

Alex Silva de Gusmão^[1], Roberto Esteves Pires Castanho^[1],
Rodrigo Franzoso Almeida de Andrade^[1],
Clarisse Moreno Farsetti^[1], Andressa Boim Mathias^[1],
Altino Luiz Silva Therezo^[1] and
Luciamáre Perinetti Alves Martins^[1]

Dear Editor,

We appreciate Dr. Shailendra Kapoor interest in our research and his suggestions for future studies on the mechanisms of action of vitamins in the pathogenesis of Chagas disease. I, along with my research team, am contacting the references noted above and requesting permission to use their findings regarding the activity of vitamin B12 on *Trypanosoma cruzi*.

At present, we are concerned about the effects that may result from the indiscriminate use of vitamin C in the general population; about 2-3 million people in Brazil are in the chronic phase of the disease. Thus, we began by conducting a study on the isolated use of high doses of vitamin C, and we observed interesting antioxidant activity in the chronic phase of the disease (results in press).

In addition, we are studying the simultaneous action of vitamins C and E in both the acute and chronic phases of Chagas disease, and we intend to publish these results for use by other researchers.

[1]. Disciplina de Parasitologia, Faculdade de Medicina de Marília, Marília. SP.

[2]. Disciplina de Patologia, Faculdade de Medicina de Marília, Marília. SP

Address to: Dra. Luciamáre Perinetti Alves Martins. Rua Dona Maria Feres 165, 17519-070 Marília, SP, Brasil.

Phone: 55 14 3402-1744

e-mail: luciamarepam@gmail.com

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