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# Efficacy of albendazole:β-cyclodextrins oral formulations in the parenteral stage of Trichinella spiralis infection: Gastric histopathological evaluation

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Albendazole-β-cyclodextrin citrate (ABZ:C-β-CD) inclusion complex in vivo antiparasitic activity was evaluated in the parenteral phase of Trichinella spiralis infection in mice. An equimolar complex of ABZ:C-β-CD was prepared by spray-drying and tested in CBi-IGE male mice orally infected with L1 infective larvae. Infected animals were treated with 50 or 30 mg/kg albendazole, (ABZ) equivalent amounts of the ABZ:C-β-CD complex and non treated (controls). Mice received a daily dose on days 28, 29 and 30 post-infection. A week later, larval burden and percentage of encysted dead larvae were assessed in the host by counting viable and non-viable larvae in the tongue. Complexation of ABZ with C-β-CD increased the drug dissolution efficiency nearly eightfold. At 37 days p-i, the reduction percentage in muscle larval load was 35% in mice treated with 50 mg/kg/day ABZ and 68% in those given the complex. Treatment with the lower dose showed a similar decrease in parasite burden. Treated animals showed a high percentage of non-viable larvae, the proportion being significantly higher in mice receiving the complex than in control animals (72-88% vs. 11%, P=0.0032). These data indicate that ABZ:C-β-CD increases bioavailability and effectiveness of ABZ against encapsulated Trichinella larvae, thus allowing the use of small doses.

## Biography

Maria Celina Lamas is a Professor of Pharmaceutical Technology at the School of Pharmacy at the Universidad Nacional de Roario in Argentine. She studied Pharmacy at the School of Pharmacy at the Universidad Nacional de Rosario (UNR) and received PhD in Pharmaceutics (1998). She also serves as an Assistant Professor at the School of Pharmacy at the UNR. Her research focuses on innovative drug delivery systems with controlled drug release (perioral systems, biodegradable microparticles, microencapsulation, multiparticulate dosage forms) and has resulted in more than 37 publications, book chapters and patents applications.

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