BI-110
TOXOPLASMA GONDII AND MILK. SURVIVAL AND INFECTIVITY OF ME-49 STRAIN CYSTS IN ARTIFICIALLY INFECTED BOVINE MILK

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Toxoplasma gondii is an Apicomplexa protozoon with a complex life cycle, involving felines and warm blood animals. High prevalent, the infection is usually asymptomatic, except in the eye, or in intrauterine infections or in immunossupressed patients. This infection is transmitted mainly by ingestion of oocysts, in raw vegetables or water contaminated with cat feaces or, cysts, in undercooked products from animal origin, like meat and milk. We study the artificial infection of bovine milk with cysts of ME-49 strain of *T.gondii*, to evaluate the survival and infectivity of this infective form, as a possible contaminant of raw milk. Sterilized bovine whole milk was infected with cysts of ME-49 strain from brains of infected C57Bl/6j mice, and stored at 4ºC up to 20 days. This mixture was used to orally infect groups of C57Bl/6j mice by gavage (12 cysts/mouse). Cysts maintained and equally stored in sterile PBS were used as controls. The mortality, morbidity and serological evidence of infection were monitored by 40 days after the infection. Storage in milk induces a high mortality(100%/O days and 50%/5 and 10 days) of infected mice in short storage periods, declining thereafter, but without losing its infectivity, as detected by neurological symptoms and specific antibody production by ELISA assays. Storage in PBS resulted lower and erratic mortality in short periods, but this mortality was not found after 10 days of storage, with also a loss of infectivity(75%/10 days and 50%/20 days). Histopathological analysis of brains of milk stored cysts infected mice showed large areas of necrosis of brain tissue, with many and frequently seen cysts, as compared to a more restrict pattern in PBS-stored cysts infected mice. Anti-*T.gondii* IgG antibody titers of survivors, after 40 days of infection, were higher than in PBS infected animals, discarding those without signs of infection. All these data suggests that the survival of cysts of *T.gondii* are improved when stored in bovine milk, that could be ascribed to a less acidic environment, probably due a buffering effect of milk proteins, during cyst rupture in stomach after infection, with higher bradyzoite survival and more aggressive infections.

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BI-111
TRYPANOSOMA RANGELI: INTRA-SPECIFIC VARIABILITY AS ANALYZED BY PULSED-FIELD GEL ELECTROPHORESIS AND LOCALIZATION OF HOUSEKEEPING GENES

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Trypanosoma rangeli is a non pathogenic parasite of humans and of a variety of domestic and wild mammals, being transmitted by triatomine bugs. It is found in Central and South Americas, sometimes in mixed infection with *T. cruzi*. This can be a problem to epidemiological studies, and then it is necessary to know as many specific markers as possible to help in the differential diagnosis of these species. In the present study we have analyzed the molecular karyotype of nine *T. rangeli* strains using contour-clamped homogeneous electric field electrophoresis (CHEF) followed by molecular hybridization using housekeeping genes as probes. These strains were isolated from different geographical regions of South and Central Americas. Two well-known *T. cruzi* isolates (CL Brener clone and Y strain) were included in this study as references. At least 20 chromosomal bands were observed in *T. rangeli* karyotype, these ranging from ~370 kb to 3,200 kb or more. In *T. cruzi* the lower band had ~550 kb. The majority of *T. rangeli* strains presented a distinct chromosomal banding pattern, excepting those from Brazil (SC58 and SC61), which were very similar to each other. The molecular hybridization using b-tubulin genes as probe displayed two groups of strains in *T. rangeli*. One including the SC58, SC61 and Pepita Gonzales strains, which presented these genes in chromosomal bands ranging from ~650 kb to ~750 kb. The other group, comprising the R1625, H9, H14, Macias, Choachi and San Agostin strains, showed that b-tubulin genes were located only in chromosomes arrested in the compression zone (above 1,000 kb), which was the same result observed for the two *T. cruzi* isolates. On the other hand, location of genes encoding heat shock protein of 70 kDa (HSP 70) and actin revealed great similarity among *T. rangeli* strains, discriminating them from *T. cruzi* isolates analyzed herein. In all *T. rangeli* strains, HSP 70 genes were detected in chromosomes of smaller size (~1,020 kb- ~1,300 kb) than in *T. cruzi* isolates (~1,500 kb). The actin genes were located in chromosomal bands ranging from ~2,350 kb to ~2,700 kb in all *T. rangeli* strains, while in *T. cruzi* they were found in smaller chromosomes (~1,500 kb and ~785 kb). Further studies will be undertaken to analyze the location of these two later genes in other *T. cruzi* isolates aiming to confirm whether they can be useful molecular markers to the differential diagnostic of *T. cruzi* and *T. rangeli*.

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