Cavia porcellus* as a model for experimental infection by *Trypanosoma cruzi

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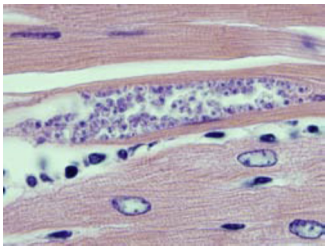
Background: Chagas disease remains a major public health concern with 8 to 10 million people already being infected, an annual incidence of 200 000 new cases in 15 countries, and 14.000 deaths associated with the infection per year. The guinea pig (*Cavia porcellus*) is one of the major reservoirs of *T. cruzi* in Perú and Bolivia, however the number of studies using this mammal is reduced. The aim of this study was to evaluate the use of the guinea pig as an animal model for Chagas disease.

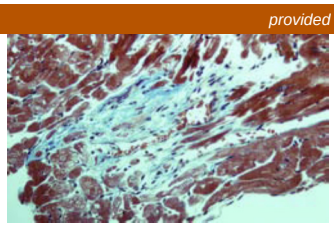
Methods: Seventy two guinea pigs were inoculated intradermally with 104 trypomastigotes form of *T. cruzi* strain Y (Experimental Group, EG) and 12 guinea pigs were used as Control Group (CG). Eight animals from EG and two from CG were sacrificed at different times (5, 15, 20, 25, 40, 55, 115, 165 and 365 days post infection).

Results: Clinical signs and mortality weren't observed. Peak of the parasitaemia was at 20 days post infection (pi), then decreased and since 55 days pi was negative. Specific IgM were detected from 15 to 115 days pi. Specific IgG were detected at 20 days pi and reached its maximum value at 115 days pi which were maintained until 365 days pi. k-DNA was detected in the blood samples from 100% of animals during the acute phase (5 to 55 days pi), during the chronic phase (115 to 365 days pi) the number of positives dropped to 37% (10/27). Lymphocytic infiltrate with some polymorphonuclear cells and amastigotes nests were observed by H&E in the heart, skeletal muscle, intestine, liver, kidney and brain. k-DNA was detected in the same tissue and in the skin, esophagus, lung and spleen. The most severe histopathological changes and the largest number of amastigotes nests were found in the heart. The major degree of inflammation and number of amastigotes were at day 25 pi. Fibrosis (62.5%) and vasculitis (62.5%) were observed in the heart at 365 days pi.



Heart tissue from a guinea pig 25 days after T. cruzi infection; note the amastigote nests in a cardiac muscle fibers, surrounded by some lymphocytes (H&E, magnification 500X).

Conclusion: These results indicate that the guinea pig is a good model for infection by *T. cruzi* as it displays similar characteristics to those found in humans.



Heart tissue of a guinea pig 365 days after T. cruzi infection; note foci of fibrosis in the myocardium (Trichromic staining, magnification 200X)

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Antibiotic Resistance: Gram-Positive (Poster Presentation)

74.001

Prevalence of Vancomycin Intermediate *Staphyloccus aureus* (VISA) in a tertiary care hospital in Eastern Nepal

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Background: Staphylococcus aureus is a leading pathogen causing many serious and life threatening infections. Resistant *S.aureus* has become a serious matter of concern over recent years. Knowledge of antimicrobial susceptibility profile of the local isolates is essential for selection of appropriate therapy for the effective management of Staphylococcal infections. Present study was undertaken to study the status of antimicrobial resistance among the clinical isolates of *Staphylococcus aureus* with special reference to the prevalence of Vancomycin Intermediate *Staphylococcus aureus*(VISA).

Methods: S.aureus isolated from the clinical specimens submitted to the microbiology unit of clinical laboratory services, BP Koirala Institute of Health Sciences (BPKIHS) hospital were studied. Isolation and identification of *S.aureus* was done by standard microbiological technique. All the isolates were tested for antimicrobial susceptibility by disc diffusion method. Minimum concentration of vancomycin required to inhibit the *S.aureus* isolates was determined by using standard agar dilution technique.

Results: A total 300 *S.aureus* isolates were obtained from various clinical specimens .All the isolates were susceptible to vancomycin in disc diffusion method. However, in MIC testing 80(26.66%) were found to have intermediate susceptibility to vancomycin (VISA) with MIC (8—16 mg/L).MRSA formed 26% of total isolates of which 18.42% were VISA. A significant number of VISA isolates were found to be multidrugresistant.Most of the VISA isolates were obtained from pus(71.25%),followed by blood(13%) suggesting association of VISA more commonly with abscesses and sepsis.

Conclusion: Resistant Staphylococci are prevalent in our set up. In addition, emergence of *S. aureus* with reduced susceptibility to vancomycin has added to the complexity of problem. Prudent use of antimicrobials and continuous surveillance are required for early recognition and containment of spread of this emerging pathogen. Further study on *S.aureus* infections, its antimicrobial resistance and its cor-