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Session: Zoonoses and Infections in Animals

Date: Thursday, April 3, 2014

Time: 12:45-14:15

Room: Ballroom

**Seroprevalence of toxoplasmosis in pastoral goat herds and attendants in a neglected tropical region of Pakistan**M.-U.-D. Ahmad<sup>1,\*</sup>, M. Mushtaq<sup>1</sup>, M. Nisar<sup>2</sup>, S.U. Rehman<sup>3</sup><sup>1</sup> University of Veterinary and Animal Sciences, Lahore, Pakistan, Lahore, Pakistan<sup>2</sup> University of Veterinary & Animal Sciences, Lahore, Pakistan<sup>3</sup> University of Veterinary and Animal Sciences, Lahore, Lahore, Pakistan

**Background:** Toxoplasmosis is a zoonotic and foodborne disease of animals and human beings, frequently associated with abortion and neonatal losses. Toxoplasmosis is found worldwide and infections are particularly common in warm, humid climates and at lower altitudes.

**Methods & Materials:** A cross sectional study was carried out in Fort Munro (District, D.G.Khan) south of Punjab, Pakistan during March-May 2013, to investigate the seroprevalence of Toxoplasmosis in apparently healthy goat herds and herd attendants. A total of 237 goats from 52 pastoral goat herds and 92 herd men were screened by LAT test. Data was entered and analyzed by SPSS 16 and Chi square test was applied.

**Results:** Overall 27% prevalence was recorded in goats and 19.6% was observed in herd attendants. The prevalence of disease was (14.77%) in Pahari and (12.24%) in Hairy goat breed whereas in female prevalence of diseases was significantly ( $P=0.02$ ) (21.52%) higher as compared to males (5.49%). High prevalence was seen in age > 1-3 years in goats. Contaminated natural reservoirs of water ( $P=0.022$ ), presence of cats and dogs in herds ( $P=0.014$ ) and offering raw meat offal to cats and dogs ( $P=0.022$ ) were significantly associated with Toxoplasmosis for goats while mutual grazing of herds with other animals ( $P=0.105$ ) was not proved to be significantly associated with Toxoplasmosis. Factors like, meat tasting while cooking ( $P=0.013$ ), eating unwashed fruits and raw vegetables ( $P=0.04$ ) and access of cats to drinking water and food ( $P=0.02$ ) were significantly associated with Toxoplasmosis in herd attendants however consuming raw goat milk ( $P=0.15$ ) was not significantly associated with Toxoplasmosis.

**Conclusion:** The comparatively high seroprevalence in goats and their attendants in study area suggest that being a zoonotic and foodborne infection Toxoplasmosis is posturing a great risk to animal and human health. The need of monitoring, surveillance of disease and public health policies should be enforced in order to reduce the disease burden in human beings and animals.

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**Seroprevalence of leptospira infection from agro pastoralist communities in Katavi ecosystem, Tanzania**S.K. Muller<sup>1,\*</sup>, L.F. Asenga<sup>1</sup>, L. Matamba<sup>2</sup>, G. Misinzo<sup>1</sup>, R. Kazwala<sup>1</sup><sup>1</sup> Sokoine University of Agriculture, Morogoro, Tanzania, United Republic of<sup>2</sup> National institute for Medical Research, Morogoro, Tanzania, United Republic of

**Background:** Leptospirosis is a neglected zoonotic disease of worldwide public health importance which affects both humans, domestic and wildlife. Our previous study in Katavi ecosystem showed that prevalence of leptospirosis in livestock was 28%. This predisposes the agro-pastoralist communities at high risk of the diseases. Microscopic agglutination test (MAT) is the gold standard technique for diagnosis of Leptospirosis. This cross sectional study intended to provide serological data for the circulating Leptospira species in Western part of Tanzania.

**Methods & Materials:** 265 blood samples from healthy participants living in Katavi ecosystem were collected in plain vacutainer tubes, centrifuged for sera collection and stored in liquid nitrogen. Urine samples were also collected and cultured in Fletcher Leptospira media for isolation of live organism. To be certain of other causes of febrile illness in the region; Screening tests for malaria and brucellosis (mRDT and Rose Bengal) were done respectively. All samples were processed at Mpanda District Hospital and transported to Sokoine University of Agriculture (SUA) for further analysis.

(MAT) was done using six known Leptospira interrogans serovars: Pomona, Icterohaemorrhagiae, Ballum, Tarassovi, Gryppotyphosa and Hardjo. Starting with Serovar Gryppotyphosa. Resulting agglutination titers were read using dark field microscopy.

**Results:** Confirmed leptospirosis was outlined as a  $\geq 4$ -fold increase in microscopic agglutination test (MAT) titer. Out of 265 participants, 3.8% were exposed to Leptospira Serovar Gryppotyphosa, 5.6% (15) had significant positive titer for Leptospira Serovar Gryppotyphosa. Apart from Leptospirosis; 13.8% of participants were malaria positive and 1.4% were brucellosis positive. Among those negative for malaria and brucellosis; 13 (5.7%) had high positive titer for Leptospirosis. 2 participants were co-infected with malaria and Leptospirosis. This is just preliminary results, results of other serovars will be completed in December 2013

**Conclusion:** This study detected the circulating Leptospira Serovars in agro-pastoralist communities living in Katavi ecosystem. Serovar Gryppotyphosa is among the circulating Leptospira serovars in Katavi region. This information is significant for better understanding of epidemiology of Leptospirosis in Katavi Region. Molecular techniques like PCR, whole order sequencing ought to be thought of in future studies.

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