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Session: Oral Presentations: Zoonoses & One Health

Date: Saturday, March 3, 2018

Time: 17:00–18:00

Room: Retiro A

Type: Oral Presentation

Prevalence of Brucella Antibodies in goats and the practices of farmers regarding Brucellosis in Wukari, Taraba State Nigeria



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Background: Brucellosis is a bacterial zoonosis with devastating public health significance. It causes serious economic losses in live-stock production manifesting as abortion, infertility and low milk yield. This study aimed to determine the prevalence of *Brucella* antibodies in goats and the practices of farmers regarding Brucellosis in Wukari L.G.A Taraba State.

Methods & Materials: Using convenience sampling, a cross-sectional approach was employed to sample 386 goats by jugular venipuncture in three Political Wards; Puje, Avyi and Hospital. Rose Bengal Plate Test (RBPT) was used to screen the sera harvested by centrifugation. A total of 176 structured questionnaires were administered to goat owners to know their practices as regard Brucellosis. Data analysis was done using Pearson's Chi-square and values of $P < 0.05$ was considered significant.

Results: The RBPT revealed a seroprevalence of 15%, 6.6% and 7.6% in Puje, Avyi and Hospital wards respectively. Age-specific seroprevalence yielded 2.8%, 8%, 18.7%, and 1% for <20 months, 22–35 months, 36–45 months and ≥ 46 –55 months age categories respectively with a statistically significant association ($P < 0.05$). Male goats had 9.5% seroprevalence while female had 9.8%. Red Sokoto, Kano Brown, Sahel and West Africa Dwarf Goat had 12%, 12.8%, 11.6%, 5.4% and 7.4% seropositivity respectively. Only 10.5% and 11.6% of the goats sourced from the market and Inherited were positive for *Brucella* antibodies respectively. Fifty-one of the respondents had experienced abortion in their herds while one hundred and twenty-five had not; 6 (11.8%) and 13 (10.4%) of these were positive for *Brucella* antibodies respectively. Only 11.6% and 10.5% were positive for *Brucella* antibodies from the herds that had the history of retained placenta and herds that had not respectively.

Conclusion: There is an evidence of Brucellosis (9.6%) in Wukari L.G.A, Taraba State and the practices of goat owners, as regards the disease is poor. There is a need to enlighten the public on the zoonotic potentials of Brucellosis.

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Naturally acquired human infections with the simian malaria parasite, Plasmodium cynomolgi, in Sarawak, Malaysian Borneo



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Background: Human infections with *Plasmodium knowlesi*, a malaria parasite of long-tailed and pig-tailed macaques, were thought to be extremely rare until a large focus of human infections were reported in the Kapit division of Sarawak, Malaysian Borneo in 2004. Human infections have since been reported throughout Southeast Asia and *P. knowlesi* is regarded as the fifth *Plasmodium* species causing human malaria. These zoonotic infections were only identified following the use of newly-developed PCR primers for *P. knowlesi* (*Pk*) since *Pk* is morphologically identical to *P. malariae* (*Pm*). Macaques in Sarawak also harbour *P. cynomolgi* (*Pcy*), *P. inui* (*Pin*), *P. coatneyi* (*Pct*) and *P. fieldi* (*Pfld*). Under experimental conditions *Pcy* and *Pin* can infect humans, and there has been one previous case of a naturally-acquired human infection with *Pcy* in Peninsular Malaysia. The aims of the study were to determine whether human infections with *Pcy* and *Pin* occur in Sarawak, Malaysian Borneo.

Methods & Materials: Blood samples were obtained from 332 malaria patients, diagnosed by microscopy as follows: 291 *Pk*, 13 *P. vivax* (*Pv*), 21 *P. falciparum* (*Pf*), 3 *P. ovale* (*Po*), 1 *Pm* and 3 mixed species infections. DNA extracted from these samples was screened with nested PCR assays using primers specific for *Pk*, *Pf*, *Pv*, *Pm*, *Po*, *Pcy* and *Pin*.

Results: The nested PCR assay results indicated 273 *Pk*, 22 *Pv*, 19 *Pf*, 1 *Pm*, 5 *Pcy* + *Pk*, 2 *Pf* + *Pv*, 1 *Pf* + *Po* and 1 *Pv* + *Po* infection. The five patients with *Pcy* + *Pk* infections had parasitaemia of 34560, 35738, 15120, 1760 and 560 parasites/uL blood. For two of these patients, early trophozoite-infected erythrocytes with stippling, characteristic of *Pcy*, were observed. However, these constituted only 1.5% and 4.7% of the total parasites in the blood. The very low proportion of *Pcy* parasites in these two cases is the most likely reason that these were undetected by routine microscopy.

Conclusion: In conclusion, this is the first report of naturally-acquired human infections with *Pcy* in Malaysian Borneo. Molecular detection methods are necessary to investigate whether these newly emergent zoonotic infections occur elsewhere in Southeast Asia.

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