

were detected *B.mallei*.

**Conclusion:** Equine glanders cases, with clear symptoms, isolation and identification of *B.mallei* are indicating that glanders is re-emerging with potential risks on public health in Mongolia.

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### Mozambique experience in implementing One Health Surveillance as an innovative tool to understand the risk of spillover of emerging and zoonotic infections between wildlife and humans

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**Background:** Zoonotic diseases are in the forefront position of emerging diseases, accounting for 70% of emerging diseases worldwide as a consequence of rapid deforestation, intense globalization, unplanned urbanization and global warming. Mozambique is a vast country, where rapid and unplanned urbanization is common, posing the risk for spill over of diseases from animals to humans. In 2012, Ministry of Health in collaboration with Faculty of Veterinary from Eduardo Mondlane University and Biotechnology Center established the first one health sentinel site to conduct research and surveillance in the interface between wildlife and humans.

**Methods & Materials:** The One Health sentinel surveillance site was established in Caia District, a rural area situated in Zambeze valley in the central part of the country. This district was selected because of the following characteristics, i) intense contact between humans and wildlife, ii) high vulnerability for flooding, iii) abundance of domestic animals such as cattle, pigs and poultry, and also abundance of breeding places for mosquitoes. The one health sentinel surveillance in Caia comprised three key pillars, i) surveillance of zoonotic diseases in febrile patients attended at the local district hospital, ii) surveillance of zoonotic diseases in cattle, pigs, poultry and micro mammals (bats and rodents) and iii) entomologic investigation mostly in mosquitoes and ticks.

**Results:** We assessed the following indicators: number of post graduation students involved, number of projects initiated, number samples collected, number of report generated and number of manuscripts published. A total of 2 PhD students and 4 Msc students from different disciplines, such as entomologists, biologists, veterinarians, medical doctors and epidemiologists are conducting their thesis in this site. An estimated 1000 serum samples were collected from febrile patients. Mosquitoes were collected as part two



**Conclusion:** After two years of implementation of this project, we conclude that establishment of One Health surveillance sites represents a strong platform to conduct transdisciplinary research combining human, veterinary and entomological data, so that to improve our knowledge on the risk of spillover of zoonotic diseases.

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### Study of antibody dynamics in horses vaccinated against West Nile Virus (WNV)

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**Background:** WNV is an RNA virus belonging to *Flaviviridae* family, transmitted by mosquitoes, causing zoonosis. Humans and horses are dead-end hosts. To date, there is no cure for the disease. The prevention can be achieved minimizing the exposure to the vector or through vaccination in equine species. In Italy, two vaccines are authorized: the “Equip WNV - Pfizer” (inactivated vaccine, VM-2 strain) and the “Proteq West Nile - Merial” (recombinant canarypox virus, vCP2017 strain, that expresses the WNV prM/prE genes). Both vaccines protect against WNV lineages 1 and 2 strains. No vaccination is available for humans. Aim of this research was the study of the dynamic of antibodies in sera of vaccinated horses.

**Methods & Materials:** Two groups, each consisting of 20 healthy horses, serological negative to WNV, were submitted to vaccination (booster after 28 days) using authorized vaccines. After vaccination, horses were examined to evaluate the immune response from 0 to 365 days after vaccination (DAV). IgG were detected through the kit ELISA: ID Screen West Nile Competition Multi-species – ID.vet. IgM were detected using the kit ELISA: West Nile Virus IgM Antibody Test – IDEXX. All sera were tested by serum neutralization (SN) test according to the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (OIE, 2013).

**Results:** Data relating to IgG response showed that Pfizer vaccine induced an earlier immune response compared to the Merial one (100% of positive animals at 18° vs 38° DAV). Both vaccines produced appropriate levels of IgG for one year. SN results showed that Merial vaccine stimulated long-lasting and more intense response compared to Pfizer one (65% vs 21%). Horses treated with Merial

vaccine had high neutralizing antibody titers for one year unlike of subjects vaccinated with Pfizer. All horses vaccinated produced IgM.

**Conclusion:** Both vaccines gave adequate antibody titers. Data suggest to use Pfizer product during outbreaks thanks to its capacity to produce antibodies early, instead Merial vaccine might be used during prophylaxis plans. Both vaccines induced IgM production, therefore, DIVA (Differentiating Infected from Vaccinated Animals) strategy is not applicable. This study can be useful as model to develop the indirect prophylaxis in humans.

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#### Endemic toxoplasmosis and listeriosis in the perspective of 'The problem of shelter dogs' in Istanbul



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**Background:** Nowadays it is known that animal sourced infections may have serious threats against human health. It is a fact that Toxoplasmosis and Listeriosis are significant zoonotic infections and dogs play a substantial role on the prevalence of these infections. In our study, we have aimed to determine the seroprevalence of Listeriosis and Toxoplasmosis among shelter dogs in different animal shelters around Istanbul and to describe the role of dogs in the transmission of these zoonoses.

**Methods & Materials:** Blood samples from 100 dogs were collected and Tag-Man probe based Real Time PCR (qPCR) analyses of the samples were conducted regarding to the high sensibility and characteristics of this technique and the results were evaluated according to the gender and age of the dogs. Real Time PCR (qPCR) analyses were conducted using specific primers and probes that target the gene regions 529 bp RE for *Toxoplasma gondii* and Listeriolysin O (hyl A) for *Listeria monocytogenes*.

**Results:** According to our results, it is found that 19 dogs (19%) out of 100 are *T. gondii* positive, and 12 dogs (12%) are *L. monocytogenes* positive. It is seen that seropositivity among the 0–2 age group is high in both zoonoses and also according to gender *L. monocytogenes* is high among the females and *T. gondii* is high among the male dogs.

**Conclusion:** When compared to other cities in Turkey, it is found that our results in Istanbul province have a lower prevalence. Beside this, we think that these results may be a serious risk for the people living in this city and optimal protective cautions should be taken. We estimate that our study will contribute the data about the prevalence of these zoonoses not only in our country but also all around the world.

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#### Brucellosis presenting as mediastinal lymphadenopathy with raised $\beta 2$ microglobulin



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**Background:** 75 year old male with high grade continuous fever for past one month. It was associated with rigors, chills and sweating. Clinical examination was unremarkable and routine screening for pyrexia was unrewarding. CECT revealed mediastinal lymphadenopathy. Brucella serology was positive with dilutional titers of 1:1280.  $\beta 2$  microglobulin levels were high i.e 3570 i.u. The patient was treated with Inj Streptomycin, Cap Rifampicin and Cap Doxycycline. His symptoms resolved and was followed for 11 months.

**Methods & Materials:** Brucellosis is a zoonotic disease presenting mainly as fever, sweating, low back ache and ill health. Its incubation period varies from weeks to months with fever persisting and undulating. Clinical signs include anaemia, arthritis, cervical lymphadenopathy, hepatosplenomegaly.

Our patient presented with classical undulant fever and had mediastinal lymphadenopathy which is relatively rare manifestation of brucellosis. In addition our patient had low back ache with anaemia which prompted us to screen him for malignancy especially multiple myeloma. His  $\beta 2$  microglobulin levels were high and brucella serology at higher dilutional also came high positive. Patient was started on brucella treatment protocol and marked improvement was noticed at 4 weeks of completion of treatment. Patient has been followed for next 11 months and was doing well. The aim of presenting this case is that mediastinal nodes can be isolated involved in brucellosis and high  $\beta 2$  microglobulin levels should not preoccupy the clinical decision for multiple myeloma.



**Results:** Our patient presented with PUO and initial brucella serology was negative. The CT chest revealed mediastinal lymphadenopathy with borderline rise of LDH and high levels of  $\beta 2$  microglobulin. We considered lymphoma as a cause of his fever. As this patient developed backache and headache, repeat brucella serology was sent and titer came 1:640. This titer doubled in a weeks time. He was put on brucella treatment.