Type: Poster Presentation

Final Abstract Number: 42.203
Session: Poster Session II
Date: Friday, March 4, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Investigation of a suspected diarrhoeal illness outbreak in Upington – ZF Mgcawu District, Northern Cape, South Africa, March – July 2015

P. Manana[1,*], N. Page[2], G. Maupye[3], A. Rakgantso[4], T. Mkhencele[5], G. Hottie[6], K. Dokubo[7], K. Mc Carthy[8]

[1] *National Institute of Communicable Diseases, Johannesburg, South Africa*
[2] *Centre for Enteric Diseases, National Institute for Communicable Diseases, Johannesburg, South Africa*
[3] *National Institute for Communicable Diseases, Field Epidemiology Training Programme, Johannesburg, South Africa*
[4] *Division of Public Health and Surveillance Response, National Institute of Communicable Disease, Johannesburg, South Africa*
[5] *Division of Public Health Surveillance and Response, National Institute of Communicable Disease, Johannesburg, South Africa*
[6] *Department of Health, Northern Cape, Upington, South Africa*
[7] *Center for Disease Control and Prevention, Atlanta, USA*
[8] *Division of Public Health Surveillance and Response, Johannesburg, South Africa*

Background: Diarrhoeal diseases are a leading cause of morbidity and mortality in children < 5 years. About 40% of diarrhoea hospitalizations in children < 5 years of age is caused by rotavirus. In response to a report about an increased number of diarrhoeal cases in a public hospital in Northern Cape Province, a situational assessment was conducted to confirm the existence of an outbreak, determine the cause/s and to prevent and control future outbreaks.

Methods & Materials: We conducted a retrospective review of hospital registers and patients' files between March – July 2015 using a standardized case investigation form. We also interviewed parents of children admitted to the ward using a structured questionnaire. Stool samples were screened using the ProSpect Rotavirus ELISA and reverse-transcription polymerase chain reaction (RT-PCR) for genotyping and real-time RT-PCR for virus detection.

Results: Between 30 March and 05 July 2015, 638 diarrhoeal cases were identified. Children < 5 years accounted for 50% (n = 318) and adults ≥45 years for 16% (n = 103) of the cases. We found that about half of the affected people were females (326/638, 51%) and there were (278/638, 44%) males affected. Two peaks were identified at epidemiological week 16 (16 cases) and epidemiological week 24 (18 cases). Of the nine children admitted in the paediatric ward, one did not receive any dose of rotavirus vaccine. Eight had received one dose of rotavirus vaccine and five of the age-eligible children had received two doses of rotavirus vaccine. Rotavirus was detected in six of the nine stools collected with G9P[8] detected in all cases. Other enteric pathogens detected include sapovirus (n = 1), norovirus (n = 1) and adenovirus (n = 1).

Conclusion: A seasonal increase in rotavirus is a possible explanation for the observed increase in cases. A seasonal increase in rotavirus is typically seen during the winter months (April – June). We recommend that rotavirus vaccination coverage be strengthened and diarrhoeal surveillance improved through routine data collection, analysis and monitoring.

http://dx.doi.org/10.1016/j.ijid.2016.02.666

Type: Poster Presentation

Final Abstract Number: 42.204
Session: Poster Session II
Date: Friday, March 4, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Active veterinary and entomological surveillance to assess emerging vector-borne disease risk in the Autonomous Province of Bolzano (Italy)

G. Morosetti[1,*], F. Severini[2], G. Bongiorno[2], C. Fortuna[2], C. Piffer[1], R. Binazzi[1], J. Simeoni[1], L. Gradoni[2]

[1] *Azienda Sanitaria dell'Alto Adige, Bozen, Italy*
[2] *Istituto Superiore di Sanità., Rome, Italy*

Background: The Province of Bolzano (pop. 520,000), Italian Alps, is a non-endemic area for Leishmaniasis and Arboviruses. The first record of Leishmania vector Phlebotomus perniciosus was in 2008. Continuous arrivals of infected dogs from endemic Mediterranean locations however raise the risk of zoonotic transmission. The last five years have also seen growth in other disease vectors such as Aedes albopictus mosquitoes. The new epidemiological situation is being monitored.

Methods & Materials: Several surveys were performed. In 2008, phlebotomine sandflies were collected using sticky traps, identified and geographic maps of sites produced. Leishmania serology was performed on local kennel dogs. Blood samples were tested with IFAT using L.infantum promastigotes as antigen source. The serological survey was repeated in 2009 on owned dogs with the collaboration of veterinarians at health district level. In 2014, a new entomological survey focused on sandflies and on adult mosquitoes, using CDC light, BG-Sentinel and sticky traps. Geographic distribution maps were updated. RT-PCR for Flavivirus presence were performed on mosquito RNA. In 2015, a retrospective case finding of dogs positive for canine Leishmaniasis was carried out with continued surveillance of human vector-borne disease cases as foreseen by law.

Results: In 2014, vectors were collected under unfavourable weather conditions (summer temperatures under 25°C). Tiger mosquitoes were the prevalent mosquito species (85.3%) in low urban settlements, whereas autochthonous Culex spp. were ubiquitous, frequently found in rural areas at varying altitudes (247-774 m a.s.l.). Phlebotomine sandflies showed comparable densities to 2008 (0.675-3.45 vs. 0.5-5.8 specimens/m2 sticky trap) and were discontinuously distributed at sites with very specific ecologies at 300-480 m a.s.l. Canine Leishmaniasis carriers are increasing. In 2008, no infected resident dogs were recorded. First cases were reported in 2009 and by 2015 prevalence was 6.1/10.000 dogs.

Four imported Dengue and two visceral Leishmaniasis cases were recorded in humans.

Conclusion: Competent vectors of non-endemic diseases such as Leishmaniasis, Dengue or Chikungunya, and West-Nile virus