



Rotavirus in various animal species in Ouagadougou, Burkina Faso: detection of genotype G9.

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ABSTRACT

Objectives: Rotaviruses have a wide host range, infecting many animal species as well as humans. The segmented nature of the genome suggests that rotaviruses are able to form new strains by a mechanism of reassortment. Animal rotaviruses are regarded as a potential reservoir for genetic diversity of human rotaviruses. The aim of this study was to determine the incidence and molecular characteristics of rotavirus in various healthy animals in Ouagadougou, Burkina Faso.

Methodology and results: A total of 618 faeces samples from various animal species with different living environments were collected between June 2009 and August 2011, and analyzed for rotavirus group A antigen detection by immunochromatographic test (SD Bioline Rota/Adeno®; Standard diagnostics, Inc., Korea). A second sample collection between February and March 2015 involved only farm animals (n=138) and analyzed for rotavirus group A antigen detection by ELISA test (Ridascreen®, R-Biopharm AG, Darmstadt Germany). The rotaviruses antigen-positives samples for ELISA were further confirmed and characterized by reverse-transcription (RT-PCR). For immunochromatographic detection, the prevalence of rotavirus A and adenovirus antigens were found in 7.4% of pig, 31% of poultry, 33.4% of pigeon, 35.7% of rabbit, 46-58% in bovine, 13.8% of shrimps, 14.8% of snails and 28.6% of captain (*Lates niloticus*). The detection of rotavirus antigen by ELISA reported rates of 7.4% in pigs, 4.1% in cattle and 14.3% in poultry and no case of rotavirus was detected in sheep. The molecular characterization of the strains established that they belong to the G9 genotype (3/7; 42.9%).

Conclusion and application of results: This study provides evidence asymptomatic hosts of rotavirus. This study report for the first time rotaviruses detection and presence of the emerged genotype G9 in farms animals in Burkina Faso. These results justify the need to monitoring animals' rotaviruses in Burkina Faso.

Keywords: Rotavirus group A, Animals, molecular characterization, Burkina Faso.