34.011
One health: Collaboration, recent research and developments in the global effort to eliminate Rabies
R. Dedmon 1, 2, D. Briggs 1, T. Lembo 3, S. Cleaveland 3
1 Medical College of Wisconsin, Milwaukee, WI, USA
2 Kansas State College of Veterinary Medicine, Manhattan, KS, USA
3 University of Glasgow, Glasgow, United Kingdom

Background: Rabies causes 55,000 deaths annually, half of which are in children less than 15 years of age, and it has the highest mortality rate of any infectious disease. It is both preventable and controllable. Economic impact of rabies in developing countries in Asia and Africa, where over 98% of all human rabies deaths occur from exposure to canine rabies, rises each year. Estimated annual human rabies prevention costs are about $800 million U.S. Even so, continuing vaccine and RIG shortages in countries with the highest incidence of rabies continue unabated, leaving the most vulnerable at greatest risk. New lyssavirus genotypes continue to be discovered in bats in Asia and Africa-needing continuing widespread surveillance globally. Burden of disease and suffering cannot be over-stated. Rabies victims in developing countries are often sent home to die, due to lack of treatment facilities and fear of the disease. Additionally, lack of surveillance and adequate control measures have enabled rabies spread to previously rabies-free areas (e.g., recent outbreak in Bali leading to human rabies deaths).

Methods: Literature review-Mesh rabies, monoclonals, vaccine, epidemiology, surveillance Meeting abstracts 2008-09.

Results: Recent advances in rabies prevention and control strategies: 1. New vaccine both for humans and animals. Molecular biology has brought new understanding to lyssavirus evolution, to possible new reduced vaccine schedules, and to an effective substitute for equine or human rabies immunoglobulin through the development of promising monoclonal antibodies now in clinical trials. Oral animal vaccines have been developed using human adenosavirus as the rabies G-Protein carrier. 2. Diagnosis of rabies in the field has been made possible via the dRIT light microscope immunohistochemical test. 3. GIS systems and computer modeling have improved rabies surveillance. 4. Partners for Rabies Control has developed an action blueprint for controlling rabies in developing countries. 5. Substantial funding from Bill and Melinda Gates Foundation is targeted to studies if dog rabies elimination in Tanzania, KwaZulu-Natal, and the Philippines. 6. A registered charity in the UK and U.S., the Alliance for Rabies Control, has become a beacon for rabies education and prevention.

Conclusion: Rabies is both preventable and controllable—many challenges, but brighter future!

doi:10.1016/j.ijid.2010.02.1833

34.012
Epizootiology of foot and mouth disease in Nepal
R. Giri 1, P. Parshin
Peoples’ Friendship University of Russia, Moscow, Russian Federation

Background: Foot and Mouth Disease (FMD) is endemic in Nepal. The details of epizootiology of FMD in Nepal were set out in this work. We studied epizootiology of the disease for the prevention and control strategies of FMD for the veterinary service, taking into account the peculiarities of the country.

Methods: We studied the spread of FMD in animals of different species by seasons of the year, regions and ecozones, types, and virus serotypes. The work was carried out using monthly epidemiological reports on the disease from 75 districts to Veterinary Epidemiology Centre, Directorate of Animal Health, Kathmandu, Nepal from 2000 to 2007. The results were processed and analyzed with the use of the computer program Microsoft Excel Programme.

Results: FMD was ranked first in terms of the number of outbreaks, the number of affected and dead animals in the structure of the major infectious and invasive diseases in Nepal. The predominant serotypes responsible for epidemic outbreaks of FMD in Nepal are O, Asia 1 and A, which are identical to other countries in South Asia. Cattle and buffaloes are the most susceptible animals to FMD in Nepal, whereas goats and sheep are relatively less susceptible. Hill and Terai (Plain) ecozones of Nepal are the most stressful areas and persistent disadvantage for the disease. The most vulnerable to the disease are the regions of the Far-west and Central. Although the outbreak of FMD is reported all the year round, high incidence of FMD is noticed twice a year: in April-June and December (the movement of animals in previous religious activities).

Conclusion: On the basis of our study, we recommend to launch 100% vaccination of susceptible animals at first in Far-western development region adding other regions in the next years using trivalent vaccine, containing virus serotypes O, A and Asia-1 to acquire the herd immunity for successful FMD planning. Expeditionary activities, pre-vaccination campaign, increase monitoring of veterinary regulations, disinfection, immediate isolation and vaccination of animals, quarantine, and creation of normative-legal provision for the implementation of activities, seminars and training of veterinary professionals are important in Nepal to implement prevention and control strategies of FMD.

doi:10.1016/j.ijid.2010.02.1834

34.013
The micro-adenomatous lesions associated with Lawsonia intracellularis in the pig intestine
M. Sueyoshi 1, R. Uemura, H. Nagatomo
University of Miyazaki, Miyazaki, Japan

Background: Lawsonia intracellularis orally infects and causes marked hyperplasia of enterocytes in pigs. The infected intestinal wall makes thickening remarkable. This disease is called porcine proliferative enteropathy (PPE)