



Centro de Documentación / Documentation Center

Objetivos/ Objectives

Identificar y atender las necesidades de información, adquisición, organización, almacenamiento, generación, uso y difusión de la información en salud pública veterinaria y proveer recursos bibliográficos técnicos-científicos al equipo de profesionales de la unidad y a los usuarios externos.

Identify and take care of the needs of information, acquisition, organization, storage, generation, use and diffusion of the information in veterinary public health and provide technical scientific bibliographical resources to the professional staff of the unit and to the users external.

Temas de interés general / Subjects of general interest



II WORKSHOP NACIONAL SOBRE PESQUISAS APLICADAS EM HANTAVÍRUS Cuiabá, MT, Brasil 26 – 29 Agosto 2008

A Secretaria de Vigilância em Saúde (SVS) do Ministério da Saúde (MS), em parceria com a Secretaria de Estado de Saúde de Mato Grosso (SES-MT) e Representação da Organização Pan-Americana da Saúde–Organização Mundial da Saúde (OPAS-OMS) no Brasil realizará de 26 a 29 de agosto de 2008, em Cuiabá, MT, o II Workshop Nacional sobre Pesquisas Aplicadas em Hantavírus (II WNPAH). O objetivo do evento é a troca de experiências científicas sobre hantavirose, síndrome cardiopulmonar por hantavírus (SCPH) e hantavírus, bem como, construir diretrizes para aplicabilidade das pesquisas em desenvolvimento no âmbito do Sistema Único de Saúde (SUS), sensibilizar pesquisadores e profissionais de saúde quanto à magnitude e transcendência da SCPH, e estimular novas pesquisas aplicadas na área.

http://portal.saude.gov.br/portal/saude/visualizar_texto.cfm?idtxt=28159

Informaciones disponibles en formato electrónico / Information available in electronic format

Encefalopatía Espongiforme Bovina (BSE) / Bovine Spongiform Encephalopathy (BSE)



Rapid Typing of Transmissible Spongiform Encephalopathy Strains with Differential ELISA

Simon S, Nugier J, Morel N, Boutal H, Créminon C, Benestad SL, Andréoletti O, Lantier F, Bilheude JM, Feyssaquet M, Biacabe AG, Baron T, Grassi J
Emerg Infect Dis. 2008 Apr;14 (4): 608-16

The bovine spongiform encephalopathy (BSE) agent has been transmitted to humans, leading to variant Creutzfeldt-Jakob disease. Sheep and goats can be experimentally infected by BSE and have been potentially exposed to natural BSE; however, whether BSE can be transmitted to small ruminants is not known. Based on the particular biochemical properties of the abnormal prion protein (PrP^{Sc}) associated with BSE, and particularly the increased degradation induced by proteinase K in the N terminal part of PrP^{Sc}, we have developed a rapid ELISA designed to distinguish BSE from other scrapie strains. This assay clearly discriminates experimental ovine BSE from other scrapie strains and was used to screen

260 transmissible spongiform encephalopathy (TSE)-infected small ruminant samples identified by the French active surveillance network (2002/2003). In this context, this test has helped to identify the first case of natural BSE in a goat and can be used to classify TSE isolates based on the proteinase K sensitivity of PrPsc.

Text in English

<http://www.cdc.gov/eid/content/14/4/pdfs/608.pdf>

Fiebre Aftosa /Foot-and-Mouth Disease

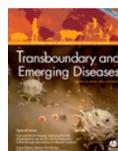


Evading the host immune response: how foot-and-mouth disease virus has become an effective pathogen

Grubman MJ, Moraes MP, Diaz-San Segundo F, Pena L, de Los Santos T
FEMS Immunol Med Microbiol. 2008

Foot-and-mouth disease virus (FMDV) causes an economically devastating disease of cloven-hoofed animals. In this review, we discuss the mechanisms FMDV has evolved to counteract the host innate and adaptive immune responses and the role of viral proteins in this process. The viral leader proteinase, L (pro), limits the host innate response by inhibiting the induction of interferon beta (IFNbeta) mRNA and blocking host cell translation. A second viral proteinase, 3C(pro), may affect host cell transcription because it cleaves histone H3. Viral protein 2B in conjunction with 2C or their precursor 2BC inhibits protein trafficking through the endoplasmic reticulum and Golgi apparatus. A decrease in surface expression of major histocompatibility class I molecules during FMDV infection suggests that 2B, 2C and/or 2BC may be involved in delaying the initiation of the host adaptive immune response and also adversely affect the secretion of induced signaling molecules. FMDV also causes a transient lymphopenia in swine, but the mechanism involved is not understood nor have any viral protein(s) been implicated. Furthermore, the interaction of FMDV with various cells in the immune system including lymphocytes and dendritic cells and the possible role of apoptosis and autophagy in these interactions are discussed.

Text in English (article in press)



The Importance of Quality Assurance/Quality Control of Diagnostics to Increase the Confidence in Global Foot-and-Mouth Disease Control

De Clercq K, Goris N, Barnett PV, Mackay DK
Transbound Emerg Dis. 2008 Feb; 55 (1): 35-45

The last decade international trade in animals and animal products was liberated and confidence in this global trade can increase only if appropriate control measures are applied. As foot-and-mouth disease (FMD) diagnostics will play an essential role in this respect, the Food and Agriculture Organization European Commission for the Control of Foot-and-Mouth Disease (EUFMD) co-ordinates, in collaboration with the European Commission, several programmes to increase the quality of FMD diagnostics. A quality assurance (QA) system is deemed essential for laboratories involved in certifying absence of FMDV or antibodies against the virus. Therefore, laboratories are encouraged to validate their diagnostic tests fully and to install a continuous quality control (QC) monitoring system. Knowledge of performance characteristics of diagnostics is essential to interpret results correctly and to calculate sample rates in regional surveillance campaigns. Different aspects of QA/QC of classical and new FMD virological and serological diagnostics are discussed in respect to the EU FMD directive (2003/85/EC). We recommended accepting trade certificates only from laboratories participating in international proficiency testing on a regular basis.

Text in English

Influenza Aviar /Avian Influenza



Wild Ducks as Long-Distance Vectors of Highly Pathogenic Avian Influenza Virus (H5N1)

Keawcharoen J, van Riel D, van Amerongen G, Bestebroer T, Beyer WE, van Lavieren R, Osterhaus AD, Fouchier RA, Kuiken T
Emerg Infect Dis. 2008 Apr; 14 (4): 600-7

Wild birds have been implicated in the expansion of highly pathogenic avian influenza virus (H5N1) outbreaks across Asia, the Middle East, Europe, and Africa (in addition to traditional transmission by infected poultry, contaminated equipment, and people). Such a role would require wild birds to excrete virus in the absence of debilitating disease. By experimentally infecting wild ducks, we found that tufted ducks, Eurasian pochards, and mallards excreted significantly more virus than common teals, Eurasian wigeons, and gadwalls; yet only tufted ducks and, to a lesser degree, pochards became ill or died. These findings suggest that some wild duck species, particularly mallards, can potentially be long-

distance vectors of highly pathogenic avian influenza virus (H5N1) and that others, particularly tufted ducks, are more likely to act as sentinels.

Text in English

<http://www.cdc.gov/eid/content/14/4/pdfs/600.pdf>

Inocuidad de los Alimentos /Food Safety



Preliminary FoodNet data on the incidence of infection with pathogens transmitted commonly through food-10 states, 2007

Centers for Disease Control and Prevention (CDC)

MMWR Morb Mortal Wkly Rep. 2008 Apr; 57 (14): 366-70

The Foodborne Diseases Active Surveillance Network (FoodNet) of CDC's Emerging Infections Program collects data from 10 U.S. states regarding diseases caused by pathogens commonly transmitted through food. FoodNet quantifies and monitors the incidence of these infections by conducting active, population-based surveillance for laboratory-confirmed infections. This report describes preliminary surveillance data for 2007 and compares them with data for previous years. In 2007, the estimated incidence of infections caused by *Campylobacter*, *Listeria*, Shiga toxin-producing *Escherichia coli* O157 (STEC O157), *Salmonella*, *Shigella*, *Vibrio*, and *Yersinia* did not change significantly, and *Cryptosporidium* infections increased compared with 2004-2006. Progress toward the targets for Healthy People 2010 national health objectives and targets regarding the incidence of foodborne infections occurred before 2004; however, none of the targets were reached in 2007. *Salmonella* incidence was the furthest from its national health target, suggesting that reaching this target will require new approaches.

Text in English

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5714a2.htm>

Rabia /Rabies



A descriptive profile of the canine population in Araçatuba, São Paulo State, Brazil, from 1994 to 2004

Andrade AM, Queiroz LP, Perri SH, Nunes CM

Cad Saude Publica 2008 Apr; 24 (4): 927-32

From 1994 to 2004, the canine population in Araçatuba, São Paulo State, Brazil, suffered two major canine zoonoses: rabies and visceral leishmaniasis. Changes in the dog population during this period were evaluated using canine census data from 1994 and 2004 and the results of blood samples for diagnosis of canine visceral leishmaniasis in 1999. The ratio of dogs per 10 inhabitants varied from 1.7 in 1994 to 2.0 in 1999 and 1.8 in 2004. The percentage of puppies less than 1 year of age increased from 20% to 32.5%, and the number of euthanized dogs also increased after 1999, when visceral leishmaniasis began to appear. The number of dogs and percentage of puppies varied between different areas of the city, and neighborhoods with a higher percentage of young animals showed more cases of both human and canine leishmaniasis. This result may be due to control measures applied in these areas in response to cases of human and canine visceral leishmaniasis, but the increase in the younger canine population can be accompanied by increased susceptibility in these animals, thus favoring maintenance of the disease in the area.

Text in Portuguese

<http://www.scielo.br/pdf/csp/v24n4/24.pdf>

Salud Pública Veterinária / Veterinary Public Health



Exploring the foundations of population health and preventive medicine as essential elements for veterinary education

Hooper BE

Prev Vet Med. 2008

The evolution of preventive medicine and public health training in professional veterinary medicine curricula is documented. Most veterinary colleges in the US began with a single course in meat hygiene or public health, with a focus on food hygiene issues. These courses laid the foundation for modern veterinary preventive medicine and public health training for veterinary students. Most graduates of veterinary colleges today have extensive training in population health, preventive medicine, and zoonotic diseases.

Text in English (article in press)



The influence of veterinary epidemiology on public health: past, present and future

Sargeant JM

Prev Vet Med. 2008

This paper summarizes a presentation given at the Association for Veterinary Epidemiology and Preventive Medicine sponsored Calvin W. Schwabe symposium honouring the lifetime achievements of Dr. S. Wayne Martin. While the concepts were amalgamated from many sources, the examples were primarily selected to represent areas where Wayne Martin has been an active researcher and educator. The purpose was to describe the impact of veterinary epidemiology on public health in the past and present and to consider the future of veterinary epidemiology in public health. Veterinary medicine contributes to public health not only in the area of zoonotic disease prevention and control, but also through contributions to animal health, comparative and basic medical research, and population and environmental health. Veterinary epidemiologists contribute to both research in public health and the practice of public health through a wide range of methodological approaches and via the networks of trained epidemiologists working in the area. The contributions of veterinary epidemiologists have resulted in significant improvements in human health. There are considerable challenges and opportunities facing veterinary epidemiologists working in the public health area in the future. Meeting these needs will require continued integration between veterinary and human public health research and practice, and enhanced communication of both content and context expertise.

Text in English (article in press)



International programs and veterinary public health in the Americas—Success, challenges, and possibilities

Arambulo P

Prev Vet Med. 2008

The veterinary public health (VPH) program at the Pan American Health Organization (PAHO) began in 1949 when an arrangement with the newly founded World Health Organization made PAHO its Regional Office for the Americas to serve as the specialized health agency both for the Organization of American States and the United Nations. It started as a Section of Veterinary Medicine to help eradicate rabies on both sides of the US-Mexico border, and PAHO grew to be the biggest VPH program in the world. By providing a political and technical base, PAHO assisted its member states to organize and develop their national VPH programs and activities, and it provides technical cooperation and works with their national counterparts to solve national and local problems.

In the 1980s and 1990s, PAHO concentrated that cooperation on several, specific needs: the elimination of dog-transmitted human rabies, hemispheric eradication of foot-and-mouth disease (FMD), regional action planning for food safety, control/eradication of bovine tuberculosis and brucellosis, and surveillance and prevention of emerging zoonoses and food-borne disease. The Pan American centers developed a number of diagnostic antigens and a continental system for the surveillance of FMD and vesicular diseases, using geographic quadrant technology to augment sensitivity, analyze data, and make decisions. Another visible accomplishment is the elimination of hydatidosis in the endemic countries and regions of the southern cone.

In addition, the VPH program of the PAHO pioneered the mobilization of the private sector to participate in official programs. Nevertheless, privatization of animal and human health services has had a negative effect on human resources and infrastructure by weakening essential epidemiological functions in some countries.

Today, there is a need for closer coordination between veterinary medicine and medical services. Practically all potential bioterrorism agents are zoonoses, and it is cost-effective to control them at the veterinary level, providing the first line of defense. The opportunities for VPH are boundless, but the challenge is to be able to apply the plethora of available research results and knowledge. What we will need is a new breed of veterinarians who will lead and provide us with a vision, like those we honored in 2005 at the Schwabe Symposium Honoring the Lifetime Achievements of Dr. James H. Steele: veterinarians in public health who will be in the forefront of policy setting, decision-making and allocation of resources, and veterinarians who will articulate and provide a strategic direction to our unique professional skills.

Text in English (article in press)



Veterinary public health: past success, new opportunities

Steele JH

Prev Vet Med. 2008

Animal diseases are known to be the origin of many human diseases, and there are many examples from ancient civilizations of plagues that arose from animals, domesticated and wild. Records of attempts to control zoonoses are almost as old. The early focus on food-borne illness evolved into veterinary medicine's support of public health efforts. Key historical events, disease outbreaks, and individuals responsible for their control are reviewed and serve as a foundation for understanding the current and future efforts in veterinary public health. Animal medicine and veterinary public health have been intertwined since humans first began ministrations to their families and animals. In the United States, the veterinary medical profession has effectively eliminated those major problems of animal health that had serious public health ramifications. These lessons and experiences can serve as a model for other countries. Our past must also be a reminder that the battle for human and animal health is ongoing. New agents emerge to threaten human and animal productions. With knowledge of the past, coupled with new technologies and techniques, we must be vigilant and carry on.

Text in English (article in press)



Unidad de Salud Pública Veterinaria
Centro Panamericano de Fiebre Aftosa



Veterinary Public Health Unit
Pan American Foot and Mouth Disease Center

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