CEDOC Informativo/Newsletter

N. 1 Octubre / October 2007

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

El Secretariado de la Organización Panamericana de la Salud tiene la responsabilidad constitucional de informar a la Conferencia Sanitaria Panamericana sobre las condiciones de salud y sus tendencias en la Región de las Américas. Este es el propósito principal de la edición de 2007 de Salud en las Américas. Esta obra ofrece un informe general actualizado sobre la situación de salud en la Región y específicamente en los 46 países y territorios de las Américas,y narra y analiza los avances, obstáculos y desafíos de los Estados Miembros en sus esfuerzos para lograr una mejor salud para todos los habitantes del hemisferio. Un aspecto muy importante de esta edición es que estará disponible en texto completo en Internet.

Text in Spanish

http://www.paho.org/HIA/index.html

The Secretariat of the Pan American Health Organization has a constitutional responsibility to report to the Pan American Sanitary Conference on health conditions and trends in the Region. Such is the principal purpose of this 2007 edition of Health in the Americas. It offers an updated, comprehensive presentation of the health situation throughout the hemisphere generally and specifically in the 46 countries and territories of the Americas,and it describes and analyzes the progress, constraints, and challenges of PAHO Member States in their efforts to improve the health of the peoples of the Region. A very important aspect of this edition is that this available one in full text in Internet

Text in English

http://www.paho.org/HIA/index.html

Informaciones disponibles en formato electrónico / Information available in electronic format

Fiebre Aftosa /Foot-and-Mouth Disease

Induction of protective immunity in swine by recombinant bamboo mosaic virus expressing foot-and-mouth disease virus epitopes
Yang CD, Liao JT, Lai CY, Jong MH, Liang CM, Lin YL, Lin NS, Hsu YH, Liang SM
BMC Biotechnol. 2007 Sep;7(1): 62

Plant viruses can be employed as versatile vectors for the production of vaccines by expressing immunogenic epitopes on the surface of chimeric viral particles. Although several viruses, including tobacco mosaic virus, potato virus X and cowpea mosaic virus, have been developed as vectors, we aimed to develop a new viral vaccine delivery system, a bamboo mosaic virus (BaMV), that would carry larger transgene loads, and generate better immunity in the target animals with fewer adverse environmental effects. METHODS: We engineered the BaMV as a vaccine vector expressing the antigenic epitope(s) of the capsid protein VP1 of foot-and-mouth disease virus (FMDV). The recombinant BaMV plasmid (pBVP1) was constructed by replacing DNA encoding the 35 N-terminal amino acid residues of the BaMV coat protein with that encoding 37 amino acid residues (T128-N164) of FMDV VP1. RESULTS: The pBVP1 was able to infect host plants and to generate a chimeric virion BVP1 expressing VP1 epitopes in its coat protein. Inoculation of swine with BVP1 virions resulted in the production of anti-FMDV neutralizing antibodies. Real-time PCR analysis of peripheral blood mononuclear cells from the BVP1-immunized swine revealed that they produced VP1-specific IFN-gamma. Furthermore, all BVP1-immunized swine were protected against FMDV challenge. CONCLUSIONS: Chimeric BaMV virions that express partial sequence of FMDV VP1 can effectively induce not only humoral and cell-mediated immune responses but also full protection against FMDV in target animals. This BaMV-based vector technology may be applied to other vaccines that require correct expression of antigens on chimeric viral particles.
Text in English
http://www.biomedcentral.com/content/pdf/1472-6750-7-62.pdf

Influenza Aviar / Avian Influenza

Development of an immunochromatographic kit for rapid diagnosis of h5 avian influenza virus infection
Tsuda Y, Sakoda Y, Sakabe S, Mochizuki T, Namba Y, Kida H
Microbiol Immunol. 2007; 51 (9): 903-7

Highly pathogenic avian influenza (HPAI) caused by the H5N1 subtype has given rise to serious damage in poultry industries in Asia. The virus has expanded its geographical range to Europe and Africa, posing a great risk to human health as well. For the control of avian influenza, a rapid diagnosis by detecting the causative virus and identifying its subtype is essential. In the present study, a rapid diagnosis kit combining immunochromatography with enzyme immunoassay which detects the H5 HA antigen of influenza A virus was developed using newly established anti-H5 HA monoclonal antibodies. The present kit specifically detected all of the H5 influenza viruses tested, and did not react with the other HA subtypes. H5 HA antigens were detected from swabs and tissue homogenates of chickens infected with HPAI virus strain A/chicken/Yamaguchi/7/04 (H5N1) from 2 days post inoculation. The kit showed enough sensitivity and specificity for the rapid diagnosis of HPAI.
Text in English
http://www.jstage.jst.go.jp/article/mandi/51/9/903/_pdf

Inocuidad de los Alimentos / Food Safety

A systematic review of the clinical, public health and cost-effectiveness of rapid diagnostic tests for the detection and identification of bacterial intestinal pathogens in faeces and food
Abubakar I, Irvine L, Aldus CF, Wyatt GM, Fordham R, Schelenz S, Shepstone L, Howe A, Peck M, Hunter PR
Health Technol Assess. 2007 Sep; 11 (36): 1-216

OBJECTIVES: To determine the diagnostic accuracy of tests for the rapid diagnosis of bacterial food poisoning in clinical and public health practice and to estimate the cost-effectiveness of these assays in a hypothetical population in order to inform policy on the use of these tests. DATA SOURCES: Studies evaluating diagnostic accuracy of rapid tests were retrieved using electronic databases and handsearching reference lists and key journals. Hospital laboratories and test manufacturers were contacted for cost data, and clinicians involved in the care of patients with food poisoning were invited to discuss the conclusions of this review using the nominal group technique. REVIEW METHODS: A systematic review of the current medical literature on assays used for the rapid diagnosis of bacterial food poisoning was carried out. Specific organisms under review were Salmonella, Campylobacter, Escherichia coli O157, Staphylococcus aureus, Clostridium perfringens and Bacillus cereus. Data

extraction was undertaken using standardised data extraction forms. Where a sufficient number of studies evaluating comparable tests were identified, meta-analysis was performed. A decision analytic model was developed, using effectiveness data from the review and cost data from hospitals and manufacturers, which contributed to an assessment of the cost-effectiveness of rapid tests in a hypothetical UK population. Finally, diagnostic accuracy and cost-effectiveness results were presented to a focus group of GPs, microbiologists and consultants in communicable disease control, to assess professional opinion on the use of rapid tests in the diagnosis of food poisoning. RESULTS: Good test performance levels were observed with rapid test methods, especially for polymerase chain reaction (PCR) assays. The estimated levels of diagnostic accuracy using the area under the curve of the summary receiver operating characteristic curve was very high. Indeed, although traditional culture is the natural reference test to use for comparative statistical analysis, on many occasions the rapid test outperforms culture, detecting additional 'truly' positive cases of food-borne illness. The significance of these additional positives requires further investigation. Economic modelling suggests that adoption of rapid tests in combination with routine culture is unlikely to be cost-effective, however, as the cost of rapid technologies decreases; total replacement with rapid technologies may be feasible. CONCLUSIONS: Despite the relatively poor quality of reporting of studies evaluating rapid detection methods, the reviewed evidence shows that PCR for Campylobacter, Salmonella and E. coli O157 is potentially very successful in identifying pathogens, possibly detecting more than the number currently reported using culture. Less is known about the benefits of testing for B. cereus, C. perfringens and S. aureus. Further investigation is needed on how clinical outcomes may be altered if test results are available more quickly and at a greater precision than in the current practice of bacterial culture.
Text in English
http://www.hta.ac.uk/fullmono/mon1136.pdf

Leishmaniose visceral / Visceral leishmaniasis

[Comparative validation study between the ELISA and RIFI techniques for diagnosing *Leishmania* sp in stray dogs caught in the municipality of Campos de Goytacazes, State of Rio de Janeiro.]
Silva MV, Xavier Sde M, Moreira WC, Santos BC, Esberard CE
Rev Soc Bras Med Trop. 2007 Jul-Aug; 40 (4): 482-3

A survey was carried out aiming to verify the ELISA test effectiveness for detecting antibodies against Leishmania sp in dogs, comparing with RIFI human pattern and for investigating sorological zoonosis situation in the microregion. An accordance about 97.6% considered strong was reported.
Text in Portuguese
http://www.scielo.br/pdf/rsbmt/v40n4/a23v40n4.pdf

[Control of visceral leishmaniasis in urban areas: randomized factorial intervention trial]
Costa CHN, Tapety CMM. Werneck GL
Rev Soc Bras Med Trop. 2007 Jul-Aug; 40 (4): 415-9

The objective of this study was to evaluate the effect of vector control and elimination of infected dogs on the incidence of infection with *Leishmania chagasi*. A randomized community intervention trial was carried out in Teresina between 1995 and 1996. The area was divided in 34 blocks randomically allocated to 4 types of intervention: 1) spraying houses and animal pens with insecticide; 2) spraying houses and eliminating infected dogs; 3) combination of spraying houses and animal pens, and eliminating infected dogs, and 4) only spraying houses. In comparison to blocks receiving only household spraying, culling dogs decreased in 80% the incidence of infection. Spraying animal pens, associated or not with culling dogs, showed no significant effect. The protection offered by culling dogs suggests that this strategy might reduce the source of infection for the vector.
Text in Portuguese
http://www.scielo.br/pdf/rsbmt/v40n4/a09v40n4.pdf

Rabia / Rabies

[Rabies virus in Nyctinomops laticaudatus bats in the City of Rio de Janeiro: isolation, titration and epidemiology.]
Silva MV, Xavier Sde M, Moreira WC, Santos BC, Esberard CE
Rev Soc Bras Med Trop. 2007 Jul-Aug; 40 (4): 479-81

The first case report of rabies in bats of the species Nyctinomops laticaudatus, in the city of Rio de Janeiro City, is presented. Virus isolation and titration were performed in different tissues, and high

titers were found in the brain and salivary glands. Rabies occurrence in such an infrequent species in this state suggests that the disease may be more prevalent than it appears to be.
Text in Portuguese
http://www.scielo.br/pdf/rsbmt/v40n4/a22v40n4.pdf

Seminarios, Congresos, Eventos / Seminars, Congress, Events

II Congresso Nacional de Saúde Pública Veterinária
8 - 11 Octubre 2007
http://www.cspvet.com.br/home.php?st=pagina&codPage=8

Zoonosis / Zoonoses

Global early warning system for major animal diseases, including zoonoses (GLEWS)
INFOSAN No. 6/2007

Zoonotic diseases are those diseases transmitted between animals and people and thus compromising public health as well as endangering livelihoods by affecting their livestock. Zoonotic diseases can also be transmitted indirectly via contaminated food. The Global Early Warning System for Major Animal Diseases, including zoonoses (GLEWS) ia a joint FAO, OIE and WHO initiative to improve the early warning capacity to animal disease threats for the benefit of the international community.
Text in Spanish
http://www.who.int/foodsafety/fs_management/No_06_GLEWS_Sept07_sp.pdf
Text in English
http://www.who.int/foodsafety/fs_management/No_06_GLEWS_Sept07_en.pdf

Organización Panamericana de la Salud
Oficina Regional de la Organización Mundial de la Salud
Unidad de Salud Pública Veterinaria
Centro Panamericano de Fiebre Aftosa

Pan American Health Organization
Regional Office of the World Health Organization
Veterinary Public Health Unit
Pan American Foot and Mouth Disease Center

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