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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



Com o tema "Agricultura e Saúde: Aliança pela Equidade e o Desenvolvimento Rural nas Américas", a **RIMSA - Reunião Interamericana em Nível Ministerial sobre Saúde e Agricultura** terá sua 15ª edição no Brasil, na cidade do Rio de Janeiro, em 11 e 12 de junho de 2008.

http://www.panaftosa.org.br/Comp/Eventos/rimsa_15_novo/portugues/default_p.html

Con el tema "Agricultura y Salud: Alianza por la Equidad y Desarrollo Rural en las Américas", la **RIMSA - Reunión Interamericana, a Nivel Ministerial, en Salud y Agricultura** tendrá su 15.a edición en Brasil, en la ciudad de Rio de Janeiro, en los días 11 y 12 de junio de 2008.

http://www.panaftosa.org.br/Comp/Eventos/rimsa_15_novo/espanol/default_e.html

Under the theme "Agriculture and Health: Alliance for Equity and Rural Development in the Americas," **RIMSA - Inter-American Meeting at Ministerial Level on Health and Agriculture** will have its 15th edition in Brazil, in the city of Rio de Janeiro, June 11-12, 2008.

http://www.panaftosa.org.br/Comp/Eventos/rimsa_15_novo/english/default_i.html



COHEFA 11: Reunião do Comitê Hemisférico para a Erradicação da Febre Aftosa
(Rio de Janeiro, Brasil, 09 de junho de 2008)

http://www.panaftosa.org.br/Comp/Eventos/cohefa_11_novo/portugues/default_p.html

COHEFA 11: Reunión del Comité Hemisférico para la Erradicación de la Fiebre Aftosa
(Rio de Janeiro, Brasil, 09 Junio de 2008)

http://www.panaftosa.org.br/Comp/Eventos/cohefa_11_novo/espanol/default_e.html

COHEFA 11: Meeting of the Hemispheric Committee for the Eradication of Foot-and-Mouth Disease
(9 June 2008 – Rio de Janeiro, Brazil)

http://www.panaftosa.org.br/Comp/Eventos/cohefa_11_novo/english/default_i.html



COPAIA 5: Reunião da Comissão Pan-Americana de Inocuidade dos Alimentos
(Rio de Janeiro, Brasil, 10 de junho de 2008)
http://www.panaftosa.org.br/Comp/Eventos/copaia_5_novo/portugues/default_p.html

COPAIA 5: Comisión Panamericana de Inocuidad de los Alimentos
(Rio de Janeiro, Brasil, 10 Junio de 2008)
http://www.panaftosa.org.br/Comp/Eventos/copaia_5_novo/espanol/default_e.html

COPAIA 5: Pan American Commission on Food Safety
(10 June 2008 – Rio de Janeiro, Brazil)
http://www.panaftosa.org.br/Comp/Eventos/copaia_5_novo/english/default_i.html

Informaciones disponibles en formato electrónico / Information available in electronic format

Fiebre Aftosa /Foot-and-Mouth Disease



A Bayesian evaluation of six diagnostic tests for foot-and-mouth disease for vaccinated and non-vaccinated cattle

Engel B, Buist W, Orsel K, Dekker A, de Clercq K, Grazioli S, van Roermund H
Prev Vet Med. 2008

The sensitivity and specificity of six ELISA tests for foot-and-mouth disease (FMD) to discriminate between sero-converted (for non-structural FMD virus proteins) and non-sero-converted cattle were evaluated for vaccinated and unvaccinated cattle. Since none of the tests could be considered as a proper reference test and for about half of the tested sera the true status (sero-converted or not for non-structural proteins, i.e. presence of antibodies) of the animals was unknown, a Bayesian analysis employing a latent class model was used that did not rely on the use of a reference test or gold standard. Prior information about prevalence for subsets of the data and specificity of the tests was incorporated into the analysis. The specificity of the six tests for vaccinated and non-vaccinated cattle ranged from 96 to 99%. For vaccinated cattle, one test stood out with an estimated sensitivity of 94% (95% CI from 89.8 to 98.1%). Second best for vaccinated cattle were two tests with estimated sensitivities of 85% (95% CI from 78.9 to 89.7%) and 92% (95% CI from 86.2 to 95.6%). For non-vaccinated cattle, the sensitivities of these three tests were around 97%. The remaining three tests showed lower estimated sensitivity for vaccinated cattle, ranging from 57 to 79%.

Text in English (article in press)



Rate of foot-and-mouth disease virus transmission by carriers quantified from experimental data

Tenzin, Dekker A, Vernooij H, Bouma A, Stegeman A
Risk Anal. 2008 Apr; 28 (2): 303-9

Upon infection with foot-and-mouth disease virus (FMDV) a considerable number of animals become carriers of the virus. These carriers are considered to be a risk for new outbreaks, but the rate at which these animals can transmit the infection has not been quantified. An analysis was carried out using data from previously published experiments in order to quantify the transmission rate parameter beta of FMDV infection from carriers to susceptible animals. The parameter beta was estimated at 0.0256 (likelihood-based confidence interval: 0.008-0.059) infections per carrier per month. Moreover, analysis of published experimental data indicates that the proportion of FMDV carriers decreases at a rate of 0.115 per month. Both parameters obtained from this study are useful for quantitative risk analyses of the trade of animals from FMDV-infected areas or the lifting of vaccination programs.

Text in English



Serotype-independent detection of foot-and-mouth disease virus

Muller JD, McEachern JA, Bossart KN, Hansson E, Yu M, Clavijo A, Hammond JM, Wang LF
J Virol Methods 2008

Foot-and-mouth disease virus (FMDV) causes a highly contagious vesicular disease affecting cloven hoofed animals and is considered the most economically important disease worldwide. Recent FMD outbreaks in Europe and Taiwan and the associated need for rapid diagnostic turnaround have identified limitations that exist in current diagnostic capabilities. To aid improved diagnosis, a serotype-independent FMDV antigen capture assay was developed using antibodies directed against a highly conserved cross-reactive protein fragment (1AB') located within the structural protein 1AB. Cattle sera raised against all 7 serotypes of FMDV bound purified 1AB' demonstrating its immunogenicity in infected animals. Polyclonal anti-1AB' antiserum was produced in chickens and applied as a universal detector of FMDV antigen. Western blot analysis and ELISA both demonstrated that anti-1AB' serum could recognize FMDV antigens independent of serotype. Two recently characterized anti-FMDV monoclonal antibodies were also evaluated for their ability to capture FMDV antigen independently of serotype. When used in combination with chicken anti-1AB' antibodies in an antigen capture ELISA format, all serotypes of FMDV were detected. These data represent the first demonstration of the use of serotype-independent FMDV antigen capture reagents which may enable the development of rapid laboratory based assays or perhaps more significantly, rapid field-based pen-side or point of entry border control diagnostic tests.

Text in English (article in press)



Use of continuous results to compare ELISAs for the detection of antibodies to non-structural proteins of foot-and-mouth disease virus

Dekker A, Sammin D, Greiner M, **Bergmann I**, Paton D, Grazioli S, de Clercq K Brocchi E
Vaccine 2008

Six tests for detection of antibodies against the non-structural proteins of foot-and-mouth disease virus (FMDV) were compared at an international workshop in Brescia, Italy in 2004 on the basis of dichotomous test results. However, as results from all of these assays were also available on a continuous scale, validation was extended by calculating and subsequently analysing the receiver-operator characteristic (ROC) curves and likelihood ratios (LR) for each test method. For the purposes of these analyses, test results for a total of 1337 sera were selected from the Brescia workshop dataset, 237 sera that had been obtained from cattle exposed to FMDV and 1100 sera obtained from cattle that were not exposed to the virus; sera from "exposed" cattle were considered to be "true positives" and sera from "non-exposed" cattle were considered to be "true negatives". Analysis of ROC curves showed that at specificities of both 99 and 99.5%, the IZS-Brescia and the Ceditest ELISA had significantly better detection rates in exposed cattle than the other ELISAs. The ROC analysis confirms the previous finding that the IZS-Brescia and the Ceditest ELISAs have both better detection rates in exposed cattle combined with a high specificity. The analysis of likelihood ratios provides information that may be very useful in the interpretation of test results, and a working example is presented to show how these likelihood ratios might be used in an objective approach to deciding the true infection status of surveyed populations.

Text in English (article in press)

Ganadería / Livestock



Ayudando a desarrollar una ganadería sustentable en Latinoamérica y el Caribe: Lecciones a partir de casos exitosos

FAO, 2008

En este reporte se describen seis casos exitosos de políticas e instrumentos de aplicación que han contribuido al fomento de sistemas de producción ganaderas sustentables y amigables con el ambiente de América Latina y el Caribe. Los casos analizados abarcan los sistemas de producción de carne, de leche y de doble propósito e incluyen las siguientes iniciativas: (i) los Centros de Recolección y Enfriado de Leche, Honduras, (ii) el Programa de Desarrollo Gaadero del Fondo de Desarrollo Local, Nicaragua, (iii) el Pago por Servicios ambientales de Proyecto Enfoques Silvopastoriles Integrados para el Manejo de Ecosistemas, Colombia, (iv) el Fondo de Crédito para el Desarrollo Agroforestal, Perú, (v), el Programa de Intensificación Ganadera de las Cooperativas Menonitas de Producción, Paraguay y (vi) el Esquema de Certificación de Carne Vanuca Ecológica, Argentina.

El reporte cierra con una serie de comentarios sobre las lecciones y principios que pueden extraerse de los casos como guías para construir iniciativas exitosas de desarrollo ganadero sustentable y amigable con el ambiente en la región.

Text in Spanish

<http://www.fao.org/docrep/010/i0082s/i0082s00.htm>

Influenza Aviar /Avian Influenza



VIROLOGY JOURNAL

Avian influenza: genetic evolution under vaccination pressure

Escorcía M, Vázquez L, Méndez ST, Rodríguez-Ropón A, Lucio E, Nava GM
Virology J. 2008; 5: 15

Antigenic drift of avian influenza viruses (AIVs) has been observed in chickens after extended vaccination program, similar to those observed with human influenza viruses. To evaluate the evolutionary properties of endemic AIV under high vaccination pressure (around 2 billion doses used in the last 12 years), we performed a pilot phylogenetic analysis of the hemagglutinin (HA) gene of AIVs isolated from 1994 to 2006. This study demonstrates that Mexican low pathogenicity (LP) H5N2-AIVs are constantly undergoing genetic drifts. Recent AIV isolates (2002-2006) show significant molecular drifts when compared with the H5N2 vaccine-strain or other field isolates (1994-2000). This study also demonstrates that molecular drifts in the HA gene lineages follow a yearly trend, suggesting gradually cumulative sequence mutations. These findings might explain the increasing incidence of LP H5N2 AIV isolated from commercial avian farms. These findings support recent concerns about the challenge of AIV antigenic drift and influenza epidemics.

Text in English

<http://www.virologyj.com/content/pdf/1743-422X-5-15.pdf>



VIROLOGY JOURNAL

Migratory birds, the H5N1 influenza virus and the scientific methods

Webber TP, Stilianakis NI
Virology J. 2008; 5: 57

Background: The role of migratory birds and of poultry trade in the dispersal of highly pathogenic H5N1 is still the topic of intense and controversial debate. In a recent contribution to this journal, Flint argues that the strict application of the scientific method can help to resolve this issue.

Discussion: We argue that Flint's identification of the scientific method with null hypothesis testing is misleading and counterproductive. There is far more to science than the testing of hypotheses; not only the justification, but also the discovery of hypotheses belong to science. We also show why null hypothesis testing is weak and that Bayesian methods are a preferable approach to statistical inference. Furthermore, we criticize the analogy put forward by Flint between involuntary transport of poultry and long-distance migration.

Summary: To expect ultimate answers and unequivocal policy guidance from null hypothesis testing puts unrealistic expectations on a flawed approach to statistical inference and on science in general.

Text in English

<http://www.virologyj.com/content/pdf/1743-422X-5-57.pdf>

Inocuidad de los Alimentos / Food Safety



Codex Alimentarius: milk and milk products

WHO / FAO, 2007

The Codex Standards for Milk and Milk Products and other related texts such as the *Code of Hygienic Practice for Milk and Milk Products* are collected and published in this compact format to allow their wide use and understanding by governments, regulatory authorities, food industries and retailers, and consumers. This first edition includes all texts adopted by the Codex Alimentarius Commission up to 2007.

Text in English

<ftp://ftp.fao.org/docrep/fao/010/a1387e/a1387e00.pdf>



Emergency care physicians' knowledge, attitudes, and practices related to surveillance for foodborne disease in the United States

James L, Roberts R, Jones RC, Watson JT, Hota BN, Kampe LM, Weinstein RA, Gerber SI
Clin Infect Dis. 2008 Apr 15;46(8):1264-70

During the past decade, the incidence of certain bacterial pathogens that are commonly transmitted through food in the United States has decreased. Concurrently, the emergency department has become

an increasingly common setting for health care. Because public health surveillance for bacterial foodborne diseases fundamentally depends on stool cultures, we conducted a survey of physicians who attended an emergency medicine conference to describe knowledge, attitudes, and practices among this provider population. A convenience sample of 162 physicians, representing 34 states, provided responses. Thirty-eight percent reported having ordered a stool culture for the most recent patient with acute diarrheal illness examined in the emergency department, but only 26% of the physicians subsequently received the stool culture results. For only 2 pathogens (*Escherichia coli* O157:H7 and *Salmonella* species) did at least one-half of the respondents provide the correct response regarding whether selected diarrheal disease pathogens were reportable in their state. Responses indicated familiarity with the Infectious Diseases Society of America's practice guidelines regarding stool cultures for patients with severe symptoms and a history of travel, but less so with characteristics of public health importance (i.e., attendance at day care and employment as a restaurant cook). We recommend that educational opportunities be made available to emergency care physicians that highlight the public health significance of acute diarrheal illness and that reinforce guidelines regarding culturing stool specimens, making recommendations to prevent further transmission, and reporting to local health authorities.

Text in English

Rabia /Rabies



Human Rabies Prevention - United States, 2008: Recommendations of the Advisory Committee on Immunization Practices

Manning SE, Rupprecht CE, Fishbein D, Hanlon CA, Lumlerdacha B, Guerra M, Meltzer MI, Dhankhar P, Vaidya AS, Jenkins SR, Sun B, Hull HF
MMWR 2008 May; 57: 1-28

These recommendations of the Advisory Committee on Immunization Practices (ACIP) update the previous recommendations on human rabies prevention (CDC. Human rabies prevention---United States, 1999: recommendations of the Advisory Committee on Immunization Practices. MMWR 1999;48 [No. RR-1]) and reflect the status of rabies and antirabies biologics in the United States. This statement 1) provides updated information on human and animal rabies epidemiology; 2) summarizes the evidence regarding the effectiveness/efficacy, immunogenicity, and safety of rabies biologics; 3) presents new information on the cost-effectiveness of rabies postexposure prophylaxis; 4) presents recommendations for rabies postexposure and pre-exposure prophylaxis; and 5) presents information regarding treatment considerations for human rabies patients.

These recommendations involve no substantial changes to the recommended approach for rabies postexposure or pre-exposure prophylaxis. ACIP recommends that prophylaxis for the prevention of rabies in humans exposed to rabies virus should include prompt and thorough wound cleansing followed by passive rabies immunization with human rabies immune globulin (HRIG) and vaccination with a cell culture rabies vaccine. For persons who have never been vaccinated against rabies, postexposure antirabies vaccination should always include administration of both passive antibody (HRIG) and vaccine (human diploid cell vaccine [HDCV] or purified chick embryo cell vaccine [PCECV]). Persons who have ever previously received complete vaccination regimens (pre-exposure or postexposure) with a cell culture vaccine or persons who have been vaccinated with other types of vaccines and have previously had a documented rabies virus neutralizing antibody titer should receive only 2 doses of vaccine: one on day 0 (as soon as the exposure is recognized and administration of vaccine can be arranged) and the second on day 3. HRIG is administered only once (i.e., at the beginning of antirabies prophylaxis) to previously unvaccinated persons to provide immediate, passive, rabies virus neutralizing antibody coverage until the patient responds to HDCV or PCECV by actively producing antibodies. A regimen of 5 1-mL doses of HDCV or PCECV should be administered intramuscularly to previously unvaccinated persons. The first dose of the 5-dose course should be administered as soon as possible after exposure (day 0). Additional doses should then be administered on days 3, 7, 14, and 28 after the first vaccination. Rabies pre-exposure vaccination should include three 1.0-mL injections of HDCV or PCECV administered intramuscularly (one injection per day on days 0, 7, and 21 or 28).

Modifications were made to the language of the guidelines to clarify the recommendations and better specify the situations in which rabies post- and pre-exposure prophylaxis should be administered. No new rabies biologics are presented, and no changes were made to the vaccination schedules. However, rabies vaccine adsorbed (RVA, Bioport Corporation) is no longer available for rabies postexposure or pre-exposure prophylaxis, and intradermal pre-exposure prophylaxis is no longer recommended because it is not available in the United States.

Text in English

<http://www.cdc.gov/mmwr/pdf/rr/rr57e507.pdf>

A simplified 4-site economical intradermal post-exposure rabies vaccine regimen: a randomised controlled comparison with standard methods

Warrell MJ, Riddell A, Yu LM, Phipps J, Diggle L Bourhy H, Deeks JJ, Fooks AR, Audry L, Brookes SM, Meslin FX, Moxon R, Pollard AJ, Warrell DA

PLoS Negl Trop Dis. 2008 Apr; 2 (4): e224

BACKGROUND: The need for economical rabies post-exposure prophylaxis (PEP) is increasing in developing countries. Implementation of the two currently approved economical intradermal (ID) vaccine regimens is restricted due to confusion over different vaccines, regimens and dosages, lack of confidence in intradermal technique, and pharmaceutical regulations. We therefore compared a simplified 4-site economical PEP regimen with standard methods. **METHODS:** Two hundred and fifty-four volunteers were randomly allocated to a single blind controlled trial. Each received purified vero cell rabies vaccine by one of four PEP regimens: the currently accepted 2-site ID; the 8-site regimen using 0.05 ml per ID site; a new 4-site ID regimen (on day 0, approximately 0.1 ml at 4 ID sites, using the whole 0.5 ml ampoule of vaccine; on day 7, 0.1 ml ID at 2 sites and at one site on days 28 and 90); or the standard 5-dose intramuscular regimen. All ID regimens required the same total amount of vaccine, 60% less than the intramuscular method. Neutralising antibody responses were measured five times over a year in 229 people, for whom complete data were available. **FINDINGS:** All ID regimens showed similar immunogenicity. The intramuscular regimen gave the lowest geometric mean antibody titres. Using the rapid fluorescent focus inhibition test, some sera had unexpectedly high antibody levels that were not attributable to previous vaccination. The results were confirmed using the fluorescent antibody virus neutralisation method. **CONCLUSIONS:** This 4-site PEP regimen proved as immunogenic as current regimens, and has the advantages of requiring fewer clinic visits, being more practicable, and having a wider margin of safety, especially in inexperienced hands, than the 2-site regimen. It is more convenient than the 8-site method, and can be used economically with vaccines formulated in 1.0 or 0.5 ml ampoules. The 4-site regimen now meets all requirements of immunogenicity for PEP and can be introduced without further studies. **TRIAL REGISTRATION:** Controlled-Trials.com ISRCTN 30087513.

Text in English

<http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=2292256&blobtype=pdf>



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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