Bienestar en Animales de Producción

Nuevas Oportunidades de Desarrollo

José Mª Salleras Montells – Foro INIA 09.04.2013

Boehringer Ingelheim

Boehringer Ingelheim compañía químico-farmacéutica fundada en 1885

Principales fechas de nuestra historia

1885
Ernst Boehringer (1860-1892) adquiere en nombre de su hermano Albert una pequeña fábrica de ácido tartárico en Ingelheim, Alemania.

1886
Albert Boehringer inicia la producción de ácido tartárico.

1893
Durante los experimentos para producir ácido cítrico, una fermentación inesperada ocasiona la formación de ácido láctico. En lugar de cancelar los experimentos, Albert Boehringer desarrolla el proceso con el propósito de producir ácido láctico a escala industrial.

1895
Da comienzo la fabricación industrial de ácido láctico, que en los siguientes años demostrará ser un éxito comercial.

1907
Se crea un fondo de beneficios para los empleados jubilados.
Comienza la edificación de las primeras viviendas para empleados.

1912
Laudanon® se convierte en la primera especialidad farmacéutica de la compañía.

1935
50º aniversario. La compañía emplea entonces a 865 personas.

1951
Lanzamiento de Buscopan®, analgésico y espasmolítico.

1955
La compañía crea la división de Salud Animal.

1973
Se funda Boehringer Ingelheim GmbH como holding alemán de las filiales extranjeras del grupo.

1985
Boehringer Ingelheim celebra su centenario con 22.250 empleados, 8.784 de ellos en Alemania.

1999
Lanzamiento de Micardis®, medicamento antihipertensivo.

2002
Lanzamiento de Spiriva®, fármaco empleado en el tratamiento de la EPOC.

2008
Lanzamiento de Pradaxa®, un anticoagulante oral.

2010
Boehringer Ingelheim celebra su 125º aniversario.

Boehringer Ingelheim en España

Breve recorrido por la historia

1952

Compra de Laboratorios Barry.
Cambio de nombre a C.H. Boehringer Sohn Ingelheim S.A.E.
Traslado a Barcelona.
Compra de Laboratorios Fher, S.A. en Barcelona.

1960

Se inaugura la planta química en Malgrat de Mar con la extracción de alcaloides a partir de productos naturales.

1963

Inauguración de la planta de producción farmacéutica en Sant Joan Despí.

1970

Adquisición de Europharma, S.A. (Madrid).

1972

Se crea el Área de Veterinaria.

1998

Traslado de la planta de producción farmacéutica a Sant Cugat del Vallès.

1999

Inauguración oficial de la planta de Sant Cugat del Vallès a cargo de SS.MM. los Reyes de España.

2001

Traslado de la sede social y administrativa de Barcelona a Sant Cugat del Vallès.

2002

Celebración del 50 aniversario de Boehringer Ingelheim España.

2008

10º aniversario de la planta de producción farmacéutica de Sant Cugat del Vallès.

2010

Celebración del 50 aniversario de la planta química de Malgrat de Mar.

Celebración del 125 aniversario del nacimiento de Boehringer Ingelheim.

2012

Celebración del 40 aniversario del Área de Veterinaria.

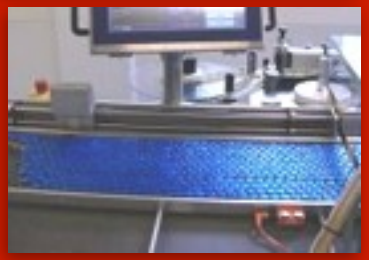
Boehringer Ingelheim compañía innovadora

Boehringer Ingelheim

Biofarmacéutica

I+D+i

Fabricación



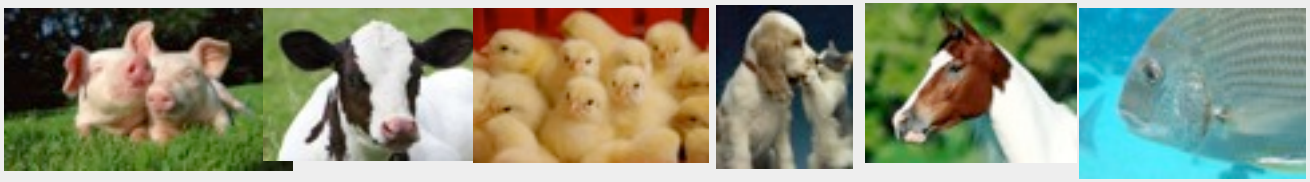
Marketing

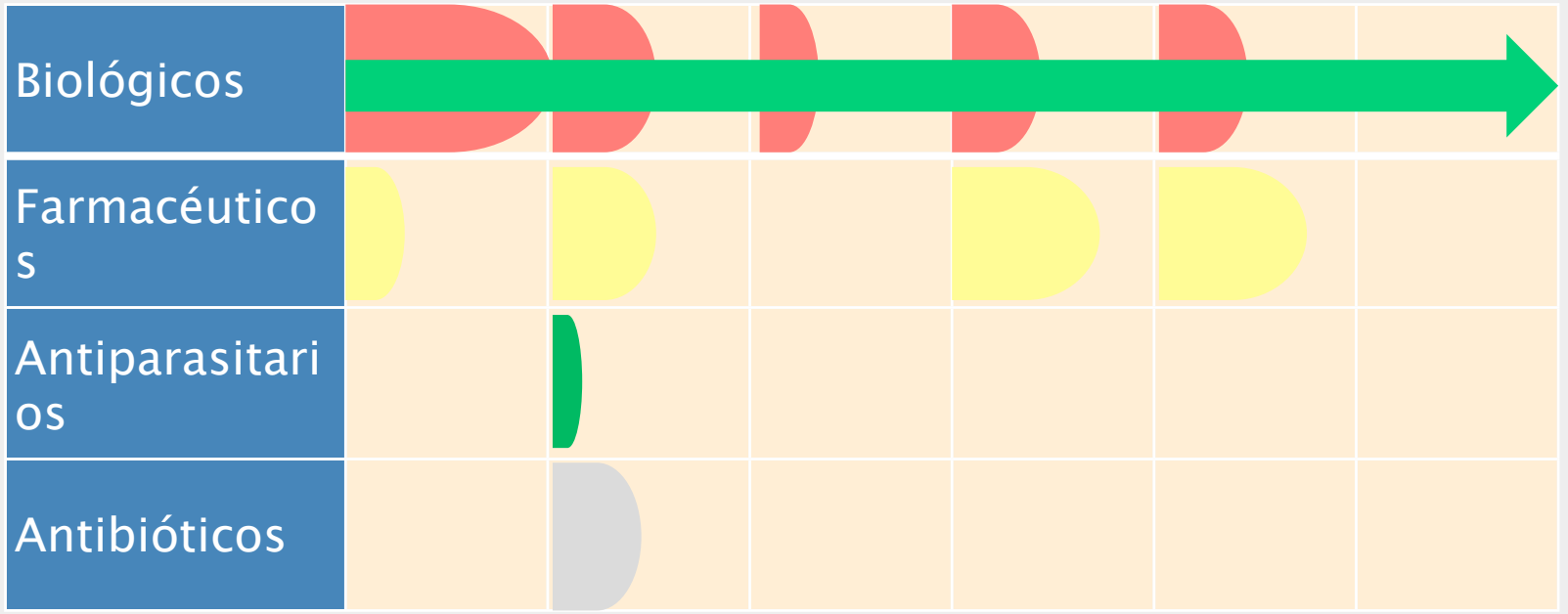
Aportar valor a través de la innovación

Portfolio Actual y Segmentos de Desarrollo animal health

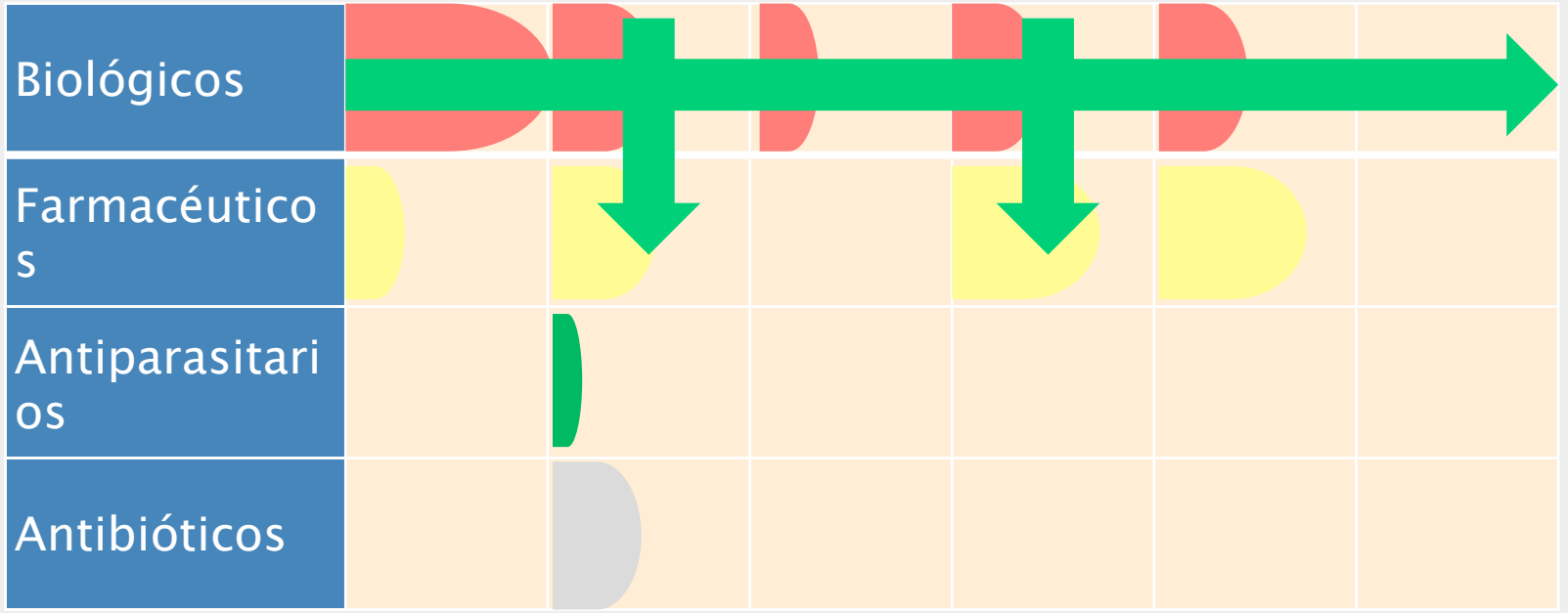
Biológicos						
Farmacéuticos						
Antiparasitarios						
Antibióticos						

Portfolio Actual y Segmentos de Desarrollo animal health





Portfolio Actual y Segmentos de Desarrollo animal health



Centros de Investigación y Desarrollo animal health

Boehringer Ingelheim

Alianzas y Colaboraciones con equipos de investigación a nivel mundial

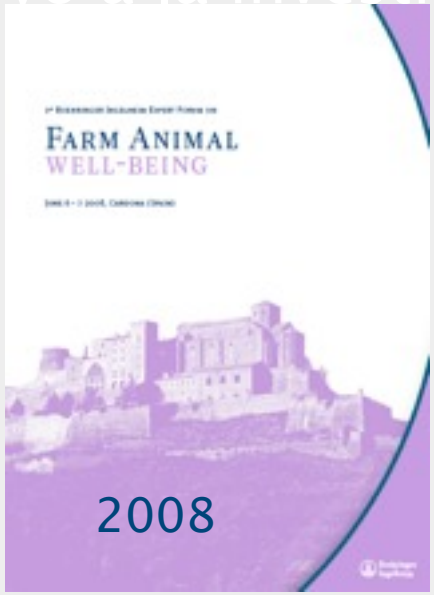
Boehringer Ingelheim

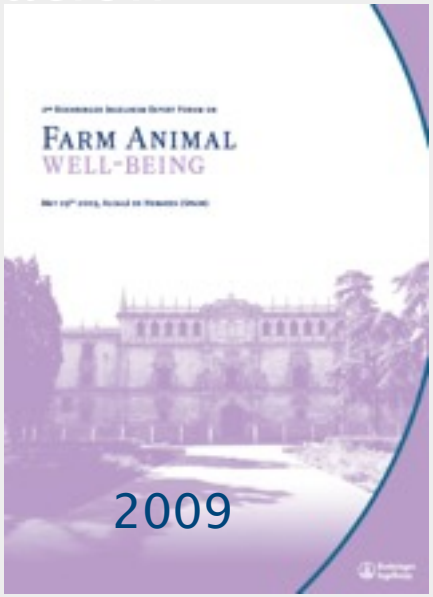
Bienestar Animal
compromiso y responsabilidad

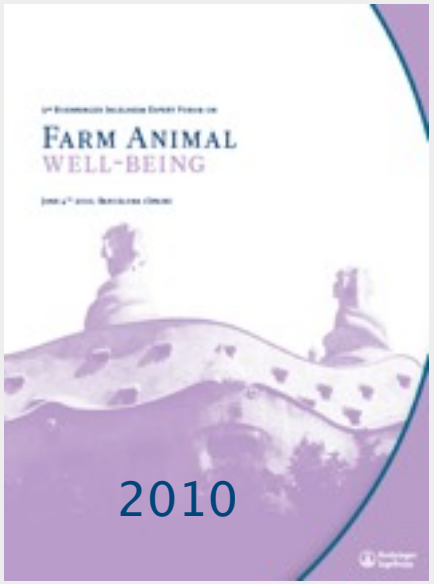
Vaccines R&D Research Center
Hannover, Germany

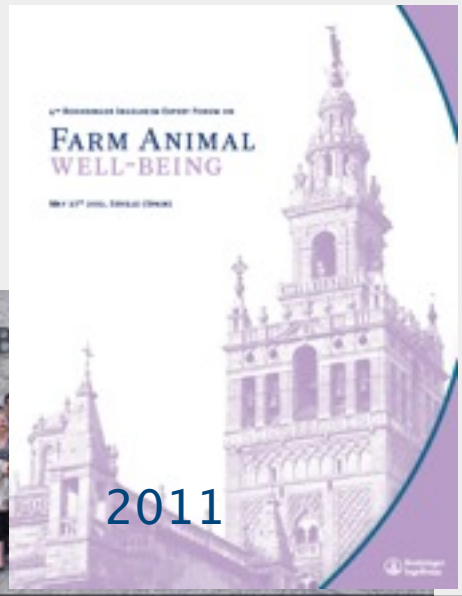
Vaccines R&D Research Center
St. Joseph, Missouri

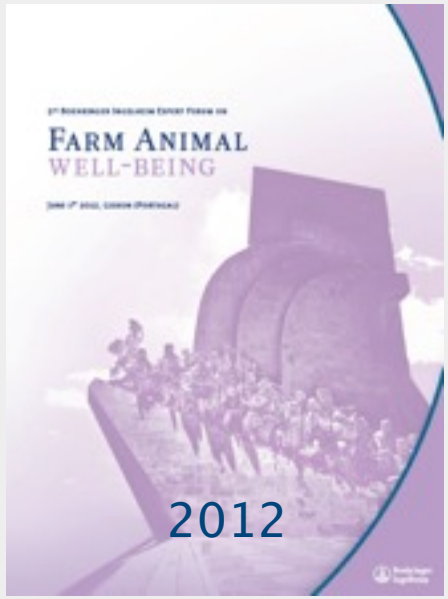
Foro Internacional Bienestar Animales Producción
apoyo a la investigación











Foro Internacional Bienestar Animales Producción
apoyo a la investigación

Boehringer Ingelheim

2011

2012

Farm Animal Welfare Education Center apoyo a la formación

Boehringer Ingelheim

Oportunidades de Desarrollo productos más seguros …

Boehringer Ingelheim

Comparative safety of PCV2 vaccines under field conditions

John Kolb, DVM; Edgar Diaz, DVM
Boehringer Ingelheim Vetmedica, Inc., St Joseph, Missouri

Introduction

Porcine Circovirus type 2 (PCV2) vaccines have been reported to be highly effective at reducing mortality due to Porcine Circovirus Associated Disease (PCVAD).[1] However, several of them may also induce significant lesions following injection. In one Canadian study, over 16% of pigs (5,900 of 35,108 pigs) developed injection site lesions up to 3cm in diameter following injection according to label directions.[2] Reactivity of certain PCV2 vaccines has also been reported from the United States.[3] In a laboratory experiment conducted as a pilot project to assess the comparative severity of lesions induced by various commercially available PCV2 vaccines, the Fort Dodge and Intervet PCV2 vaccines were found to induce significantly more severe lesions than saline control injection sites and Boehringer Ingelheim (BI) PCV2 vaccine. BI vaccine injection site lesion scores were not significantly different from saline controls.[4,5] This second study was conducted to com… the same vaccines … duction condition…

Materials an…

This field study a… mercial vaccinatio… per treatment gro… of three treatment… with the various v… side of the neck at… gelvac CircoFLEX… PCV2 One Dose … PCV vaccine = 2n… received a second … first injection, i.e. … tion of equal volu… neck to serve as a … made with multip… per needle. Pigs w… injected while stan…

A subset of twenty… examined at 14 da… were palpated and examined grossly prior to humane euthanasia and injections sites were harvested and preserved in formalin. Histological lesions were blindly scored at the Iowa State University Veterinary Diagnostic Laboratory on a 1-5 scale.[5]

The null hypothesis was there would be no differences in post-vaccination reactivity or injection site lesion scores between treatments. Statistical analyses were made on normal, continuously distributed variables by ANOVA with Tukey's HSD utilized to identify which groups were significantly different from one another (JMP, Cary, North Carolina). Student's t-tests were used for pair-wise comparisons (JMP, Cary, North Carolina). Proportions were analyzed by Pearson's Chi Square tests (Statistix 8.0, Tallahassee, Florida).

Results and discussion

Five of 300 (5/300) pigs died within the first 24 hours post-injection in the Fort Dodge vaccine group, with the deaths attributed to anaphylactic reaction to vacci… … groups died dur…

…at were examined …:

…jection site le… …red saline injection … vs 0.048 ± 0.218 …ficant lesions were …an lesion scores of …trol lesions scores …1). The most severe …; two doses of In… …00 ± 1.780 versus …095 ± 0.301 …ction site scores … 0.10).

…cines were com… …g their respective …paring the resulting …accine induced a …ore than Ingelvac CircoFLEX (1.71 vs 0.57, $P < 0.0001$, Figure 2). The

An innovative method for quantifying animal behavior responses to various immunization protocols

Keith Bretey; Roy Edler; Edgar Diaz
Boehringer Ingelheim Vetmedica, Inc., St Joseph, Missouri

Introduction

Pigs are naturally curious about their environment and seek out any recent changes or introductions into that environment. Pigs are also cautious, initially acting fearful or excitable when a person first enters a pen. However, after a 15 second adjustment period, pigs that have no previous reason to fear people will relax and explore the presence of a person in the pen by nosing or biting at the observers legs and feet. The National Pork Boards' Swine Welfare Assurance Program[1] (SWAP) introduced in 2003 utilized these behavioral principles to identify and quantify pigs that are relaxed in the presence of people in a pen. After entering a pen and kneeling down in that pen, 50% of the pigs in that pen should return to the observer's gloved hand or approach the observer and/or demonstrate a relaxed posture with… in the 15 second… of the animal ob… has been emplo… proach may be … reactivity (side …

A similar adapta… of the 2003 SW… the behavior of … Intervet/Scheri… 1/2 dose compar… CircoFLEX®, a … line as measure… and 6 hours po… CircoFLEX are … circovirus disea… FLEX are both … caused by Myco… vent/M+PAC; pe… because it was th… tion system. Thi… this evaluation a… mixing/combine… a second dose of … later, however, the behavioral response to the second dose was not quantified. The terms "safety", "reactivity", and "approachability" as used in this document refer to relative responses by groups of pigs to various injectable vaccines or saline as measured by the relative decrease in percent of pigs in a group that are willing to approach an observer within a specified time interval, with the baseline value for each group determined prior to treatment and the same measurement repeated 6 hours post-treatment.

Objectives

To evaluate the comparative reactivity of Ingelvac CircoFLEX alone, Ingelvac MycoFLEX alone, Ingelvac CircoFLEX/Ingelvac MycoFLEX mixture, Circumvent/M+PAC mixture, and saline injection as measured by clinical observations pre-injection and 6 hours post …

…rate as the vaccination crew, an observer blinded to …

Oportunidades de Desarrollo combinaciones de productos …

Efficacy evaluation of a mixed *Mycoplasma hyopneumoniae* bacterin and a porcine circovirus type 2 vaccine

Marc A. Eichmeyer[1], BS; Michael B. Roof[1], PhD; Michael D. Piontkowski[1], DVM
Philip W. Hayes[1], DVM; Ryan Saltzman[2], DVM
[1]Boehringer Ingelheim Vetmedica, Inc., St. Joseph, Missouri, [2]Veterinary Resources, Inc., Cambridge, Iowa

Introduction

Diseases associated with *Mycoplasma hyopneumoniae* (M hyo, enzootic pneumonia) and Porcine Circovirus Type 2 (PCV2) infections are a major concern in the swine industry. M hyo has also been implicated as one of the major co-factors in the development of PCVAD.[1,2] The objective of these studies was to evaluate the efficacy of both *Mycoplasma hyopneumoniae* and Porcine Circovirus Type 2 vaccines when the monovalent USDA licensed vaccines for the two agents are mixed and administered in a single combined injection.

Materials and methods

The efficacy of each fraction was evaluated in separate studies. This allowed for evaluation of M hyo and PCV2 vaccinal protection in their appropriate host animal challenge models.

M hyo evaluation

The M hyo efficacy evaluation was performed in conventional pigs approximately 3 weeks of age. Pigs were

PCV2 evaluation

The PCV2 efficacy evaluation was performed in caesarian-derived, colostrum-deprived piglets. At approximately three weeks of age, piglets were vaccinated with Ingelvac MycoFLEX and Ingelvac CircoFLEX in a single 2 mL dose (mixed as described above). On day 31 post-vaccination, vaccinates and control animals were administered a virulent PCV2 challenge virus. Twenty two days following the administration of the challenge material, all animals were euthanized and selected tissues were removed and submitted for evaluation by histopathology and PCV2 immunohistochemistry (IHC). The primary efficacy criteria were prevalence of lymphoid depletion, lymphoid inflammation and lymphoid IHC. Tests for differences in percentages between treatment groups were performed using Fisher's Exact Test.

Results

There were no systemic or injection site adverse reactions that could be attributed to the vaccine mixture in either study.

Ingelvac MycoFLEX® + Ingelvac CircoFLEX®

Ingelvac MycoFLEX® Cada dosis de 1 ml de la vacuna inactivada contiene: Mycoplasma hyopneumoniae ≥ 1 PP* *Potencia Relativa (test ELISA) por comparación con una vacuna de referencia. Adyuvante: Carbómeros. Indicaciones: Inmunización activa de cerdos, a partir de 3 semanas de edad, para reducir lesiones pulmonares después de una infección con Mycoplasma hyopneumoniae. Inicio de la inmunidad: 2 semanas tras la vacunación. Duración de la inmunidad: al menos 25 semanas. Interacción con otros medicamentos: Existe información sobre la seguridad y la eficacia que demuestra que esta vacuna se puede mezclar con Ingelvac CircoFLEX® de Boehringer Ingelheim y administrar en un punto de inyección. Reacciones adversas: Las reacciones adversas no son comunes: puede observarse en el lugar de inyección una hinchazón transitoria de hasta 4 centímetros de diámetro, algunas veces asociada con enrojecimiento de la piel. Estas hinchazones pueden durar hasta 5 días. Puede observarse un incremento transitorio en la temperatura rectal de alrededor de 0,8 °C de promedio que dura hasta 24 horas después de la vacunación. Posología: Inyección única por vía intramuscular (IM) de una dosis (1 ml), preferiblemente en el cuello de cerdos a partir de 3 semanas de edad. Tiempo de espera: Cero días. Conservación: Conservar y transportar refrigerado (entre 2 °C y 8 °C). No congelar. Proteger de la luz. Usar inmediatamente después de abierto. Presentación: Frascos de 50 ml (50 dosis), 100 ml (100 dosis) y 250 ml (250 dosis). Registro nº.: 2.834-ESP. Titular de la autorización: Boehringer Ingelheim Vetmedica GmbH. Ingelheim/Rhein, Alemania.

Ingelvac CircoFLEX® Cada dosis de 1 ml de la vacuna inactivada contiene: Proteína ORF2 de Circovirus Porcino Tipo 2, PP* mínima 1,0; PP* máxima 3,75. *Potencia Relativa (test ELISA) por comparación con una vacuna de referencia. Adyuvante: Carbómeros. Indicaciones: Inmunización activa de cerdos de más de 2 semanas frente al PCV2 para la reducción de la mortalidad, signos clínicos- incluyendo pérdida de peso- y lesiones en tejidos linfoides relacionadas con las enfermedades asociadas al PCV2 (PCV2). Además, la vacunación ha demostrado reducir la excreción nasal de PCV2, la carga viral en sangre y tejidos linfoideos y la duración de la viremia. Inicio de la protección: 2 semanas tras la vacunación. Duración de la protección: al menos 17 semanas. Interacción con otros medicamentos: Existe información sobre la seguridad y la eficacia que demuestra que esta vacuna se puede mezclar con Ingelvac MycoFLEX® de Boehringer Ingelheim y administrar en un punto de inyección. Reacciones adversas: De forma muy frecuente se produce hipertermia leve y transitoria el día de la vacunación. En muy raras ocasiones, pueden ocurrir reacciones anafilácticas que deberán tratarse sintomáticamente. Posología: Inyección única por vía intramuscular de una dosis (1 ml), independientemente del peso vivo. Tiempo de espera: Cero días. Conservación: Conservar y transportar refrigerado (entre 2 °C y 8 °C). No congelar. Proteger de la luz. Usar inmediatamente después de abierto. Presentación: Frascos de 50ml (50 dosis), 100ml (100 dosis) y 250ml (250 dosis). Registro nº.: [illegible] Titular de la autorización: Boehringer Ingelheim Vetmedica GmbH. Ingelheim/Rhein, Alemania.

Oportunidades de Desarrollo nuevas indicaciones terapéuticas …

Boehringer Ingelheim

Veterinary Anaesthesia and Analgesia

Veterinary Anaesthesia and Analgesia, 2010, 37, 167–174 doi:10.1111/j.1467-2995.2010.00546.x

RESEARCH PAPER

Pre-emptive meloxicam for postoperative analgesia in piglets undergoing surgical castration

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Abstract

Objective To investigate the effect of preoperative meloxicam administration on postoperative stress and pain induced by surgical castration in piglets.

Study design Prospective, blinded, randomized clinical trial.

Animals One hundred and eighty male <1 week of age.

Methods Castration was performed on 1 which had received either an intramusc tion of 0.4 mg kg^{-1} meloxicam or a pl 30 minutes before the procedure. Blood c ACTH concentrations were determined a utes post-castration and haptoglobin was at 24 hours post-castration. Presence or a foreleg movements, hind leg movements faeces emission, tremors or other body r were recorded during the castration p Scores for presence or absence of prostrat ors, tail movements and isolation were r 30 minutes, and at 1, 2, 4 and 24 h castration and combined in a global behav (GBS). Blood samples were taken from a piglets which did not undergo castration.

Results Mean blood cortisol and ACTH c tions at 30 minutes post-castration w significantly lower in the meloxicam gro the placebo group ($p \leq 0.01$). The mean haptoglobin concentration at 24 hours was not significantly reduced ($p = 0.178$). The distribution of the GBS during castration was similar in both groups. There were significant differences in the GBS after castration at both 2 and 4 hours post-castration with a greater proportion of piglets in the meloxicam group showing no behavioural alterations (82.7% versus 68.0% at both time points). The score distribution

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The effect of meloxicam on behavior and pain sensitivity of dairy calves following cautery dehorning with a local anesthetic

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ABSTRACT

Effects of a single injection of meloxicam on calf behavior, pain sensitivity, and feed and water intakes were examined following dehorning. Sixty Holstein heifer calves were blocked by age and randomly assigned to receive an i.m. injection of meloxicam (0.5 mg/kg) or a placebo. All calves were given a lidocaine cornual nerve block (5 mL per horn). Treatments and nerve blocks were administered 10 min before cautery dehorning. Continuous sampling of behavior was performed during five 1-h intervals using video recordings, and total daily activity was monitored using an accelerometer. A pain sensitivity test was administered with a pressure algometer, and feed and water intakes were recorded daily. Calves were sham-dehorned 24 h before actual dehorning to establish baseline values, and all variables were assessed at the same times following dehorning and sham dehorning for up to 48 h post-dehorning. Meloxicam-treated calves displayed less ear flicking during the 44 h following dehorning

INTRODUCTION

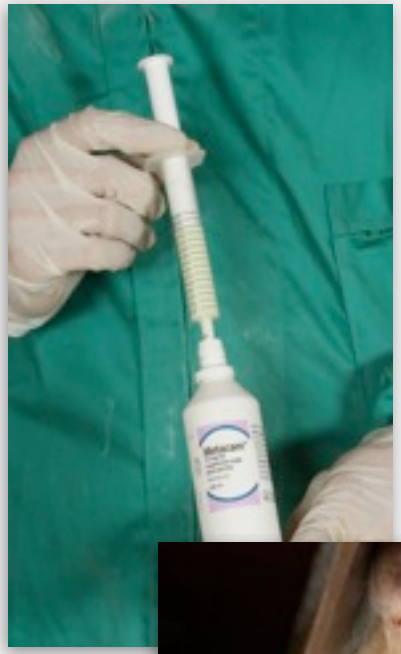
Dehorning refers to amputation of horns in mature cattle or removal of the horn buds of calves; when conducted before 3 wk of age, it is referred to as disbudding. Dehorning is routine management practice on dairy farms, performed to prevent cattle from injuring each other as well as their human handlers. Even though dehorning is done with the long-term welfare of the animals in mind, it does cause acute pain or distress, as indicated by changes in plasma cortisol (Petrie et al., 1996; Sutherland et al., 2002; Heinrich et al., 2009), heart rate (Grandin-Nielsen et al., 1999; Stewart et al., 2008), eye temperature (Stewart et al., 2008), electroencephalogram (Gibson et al., 2007), and calf behavior (McMeekan et al., 1999; Sylvester et al., 2004). The degree of physiologic and behavior response varies with the method of dehorning. Amputation dehorning caused a greater cortisol response than dehorning by heat cauterization (Petrie et al., 1996).

Local anesthetics such as lidocaine and bupivacaine for reducing physiologic and behavior dehorning surgery (Graf and Sean, 1999). he local anesthetic dissipated, cortisol et al., 2002) and behaviors such as ear head shaking increased, suggesting the flammatory pain for up to 24 h (Faulkner 000). reliably described an increase in cortisol immediately following dehorning without ment associated with acute amputation d and Mellor, 2005). The absence of a ase when dehorning was performed with blockade presented compelling evidence isol response was primarily pain related 1996; McMeekan et al., 1999; Sutherland

bjective state that can only be measured ll et al. (2002) suggest that behavior is a e indicator of pain than cortisol and other measures. Differences in behavior were e first 24 h after dehorning (Faulkner and Behavioral responses such as ear flicking, ead shaking, head rubbing, rearing, and

2450

Oportunidades de Desarrollo nuevas formas de administración …



Oportunidades de Desarrollo nuevas líneas de investigación …

Boehringer Ingelheim

UAB
Universitat Autònoma de Barcelona

Pain caused by parturition in sows and dairy cattle.

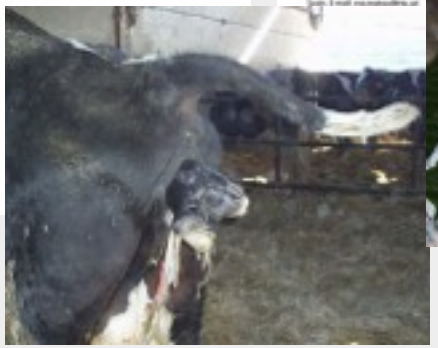
Effects of Meloxicam on welfare and production

MEMÒRIA PRESENTADA PER ÈVA MAINAU BRUNDO

PER ACCEDIR AL GRAU DE DOCTORA DINS DEL PROGRAMA DE DOCTORAT DE PRODUCCIÓ ANIMAL DEL DEPARTAMENT DE CIÈNCIA ANIMAL I DELS ALIMENTS DE LA UNIVERSITAT AUTÒNOMA DE BARCELONA

BELLATERRA, GENER DEL 2011

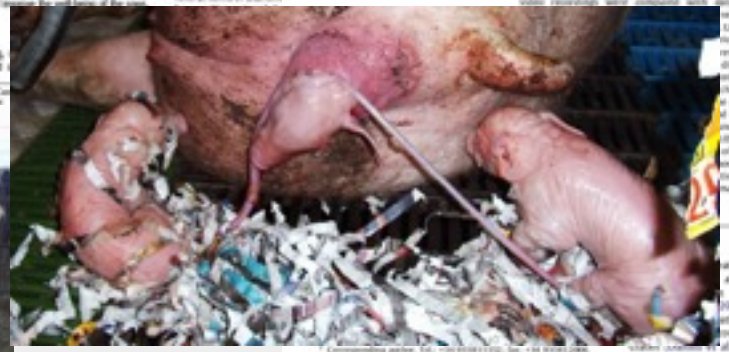
FACULTAT DE VETERINÀRIA



animal

Effects of meloxicam (Metacam®) on post-farrowing sow behaviour and piglet performance

E. Mainau[†], J. L. Ruiz-de-la-Torre[1], A. Dalmau[2], J. M. Salleras[3] and X. Manteca[1]



Applied Animal Behaviour Science

ELSEVIER

Validation of an automatic system to detect position changes in puerperal sows

Eva Mainau[a,*], Antoni Dalmau[b], José Luis Ruiz-de-la-Torre[a], Xavier Manteca[a]

BIAH Company Presentation 2012

… muchas gracias.