

## 13.3.

**Effect of combined application of prostaglandins and oxytocin on the duration of parturition and number of newborn piglets of sows**V. ČUPIĆ<sup>1</sup>, S. JOVIĆ<sup>1</sup>, G. RISTIĆ<sup>2</sup>, S. VAKANJAC<sup>1</sup>, R. VELEV<sup>3</sup> & D. ČUPIĆ-MILADINOVIĆ<sup>1</sup><sup>1</sup>Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, Belgrade, Serbia, Serbia and Montenegro; <sup>2</sup>Pig farm "Delta Agrar", Vladimirovac, Serbia; <sup>3</sup>Faculty of Veterinary Medicine, Skopje, Macedonia

## INTRODUCTION

Process of farrowing in sows on farms represents the most delicate stage in the production of piglets. It is best to finish the delivery as soon as possible, because in this way sows recover as soon as possible, and allows the piglets to suck colostrum. In order to achieve the shortest duration of parturition, in the control farrowing most often are applied uterotonics, such as oxytocin in combination with drugs for induction of parturition (prostaglandin analogues, PGF<sub>2</sub>-alpha).

The aim of this study was to examine the extent to which prostaglandins F<sub>2</sub>-alfa (applied alone or in combination with oxytocin) influence on the duration of parturition, and the number of liveborn piglets.

## MATERIALS AND METHODS

The experiments were performed *in vivo* on 133 pregnant sows, breeds Landrace-Yorkshire, which were divided into nine groups. The animals of the first three groups were administered prostaglandin F<sub>2</sub>-alfa (Dinoprost), i.m. at a single dose of 2 ml, at 112 days of gestation and once (after farrowing fifth piglet-second group) oxytocin (Oxytokel), i.m., at a dose of 2 ml per animal (eq. 20 units per animal) or twice (after farrowing fifth and tenth piglet-third group) oxytocin, i.m., at a dose of 2 ml per animal (eq. 20 units per animal) first time and then 1.5 ml per animal (eq. 15 units per animal) second time. All of this was done at 113 days (groups IV, V, VI) and at 114 days of gestation (groups VII, VIII, IX).

## RESULTS

The obtained results showed that average duration of farrowing was the shortest (4.56 h) in sows which is applied only prostaglandin at 114 days of gestation, and the longest (7.17 h) in sows treated with prostaglandin at 112 day of gestation with twofold application of oxytocin. The largest number of newborn piglets (20, 47) have been reported in sows which were treated with prostaglandin at 113th day of pregnancy in combination with twofold application of oxytocin.

## CONCLUSION

On the base of all results it may be concluded that the best effect is achieved (duration of partus and number of newborn piglet) when prostaglandin applied in combination of oxytocin (twofold) at 113th day of pregnancy.

## REFERENCES

- Alonso-Spilsbury ML, Mota-Rojas D, Martínez-Burnes J, Arch, E, Mayagoitia AL, Ramír ez-Necoechea R, Olmos A, Trujillo ME. Use of oxytocin in penned sows and its effect on fetal intra-partum asphyxia. *Anim Reprod Sci* 2004; 84: 157–67.

- Dial GD, Almond GW, Hilley HD, Repasky RR, Hagan J. Oxytocin precipitation of prostaglandin-induced farrowing in swine: Determination of the optimal dose of oxytocin and optimal interval between prostaglandin F<sub>2a</sub> and oxytocin. *Am J Vet Res* 1987; 48: 966–70.

- Hernández VF, Canseco AB, Hernandez JRO. Programmed farrowing with prostaglandin and oxytocin in the sow. *J Anim Vet Adv* 2009; 8: 1045–8.

## 13.4.

**Legal status regarding distribution/dispensing and administration of veterinary medicines in Republic of Macedonia**R. VELEV<sup>1</sup>, N. KRLESKA-VELEVA<sup>2</sup>, V. ČUPIĆ<sup>3</sup> & D. ČUPIĆ-MILADINOVIĆ<sup>4</sup><sup>1</sup>Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, Skopje, Macedonia; <sup>2</sup>Replek Farm, Skopje, Macedonia; <sup>3</sup>Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, Belgrade, Serbia; <sup>4</sup>Faculty of Veterinary Medicine, Belgrade, Serbia

## INTRODUCTION

Animal medicines play an important role in the control and prevention of disease but have the potential to cause harm if not used properly. The use of veterinary medicines (VM) can sometimes result in residues in foods taken from the treated animals and can seriously endangered the health of people as potential consumers. Therefore, the significance of control of the VM in these animals is exceptionally high. These include statutory controls on the authorisation, distribution and use of such medicines. The aim of this paper is to show legal status regarding distribution/dispensing and administration of VM in Macedonia (RM) in order to identify legal weaknesses.

## MATERIALS AND METHODS

National Law on VM (Article 47) provides legal basis for distribution of VM in categories. Following evaluation of scientific data provided by the MAH, for each VM is granted a specific distribution category by the Food and Veterinary Agency (FVA) when it is for first time authorised. The data was collected from the web site of sector for Public Health in FVA and was compared with Veterinary Medicines Regulations in other countries.

## RESULTS

All VM in the RM are assigned into one of six distribution categories. Only veterinary surgeons (VS) are entitled to prescribe VM and they must be dispensed from registered premises. The highest level of control is the VM intended for food production animals which can be used only in veterinary premises by the VS or under their direct responsibility. This would include VM containing controlled drugs and those intended for administration only following a diagnosis and clinical assessment of the animal(s). VM which can be dispensed in veterinary pharmacies only by written prescription is intended for food production animals but is not required a clinical assessment. VM intended for non-food production animals may be supplied by any retailer without any restrictions, or provision of advice.

## CONCLUSIONS

Distribution categories provide controls on the supply of veterinary medicines to help ensure that appropriate advice is given at the point of sale so that products can be used safely and effectively. Also it is a practical tool for identification of different groups of VM for the veterinary practitioners as well as all subjects involved in production, trade and distribution of VM. The results obtained given an overall picture of trends in the use of VM in RM and allows comparison of such trends in other countries.

## REFERENCES

1. Official Gazette of the Republic Macedonia 42/2010. Law on Veterinary Medicinal Products.
2. Food and Veterinary Agency of R. Macedonia. Register on Veterinary Medicinal Products ([http://www.fva.gov.mk/images/stories/1010.01\\_REGIS-TER\\_VMP\\_Vs\\_021\\_05.03.201397-2003\\_English.pdf](http://www.fva.gov.mk/images/stories/1010.01_REGIS-TER_VMP_Vs_021_05.03.201397-2003_English.pdf).)
3. Velev R. and Krleska-Veleva N. (2013): Practical Use of Registered Veterinary Medicinal Products in Macedonia in Identifying the Risk of Developing of Antimicrobial Resistance. *Mac Vet Rev*; 36 (1): 5–12.

### 13.5.

#### Treatment of bovine retained fetal membranes: the opinion of vets and breeders confronted with evidence-based veterinary literature

M. Y. MALLEM<sup>1</sup>, A. STEPHAN<sup>2</sup>, D. TAINTURIER<sup>2</sup>, C. THORIN<sup>1</sup>, D. BENCHARIF<sup>2</sup> & L. BRIAND-AMIRAT<sup>2</sup>

<sup>1</sup>LUNAM Université, UPSP 5304 de Physiopathologie Animale et de Pharmacologie Fonctionnelle, Oniris, Nantes, France; <sup>2</sup>LUNAM Université, Unité de Sécurité Sanitaire des Biotechnologies de la Reproduction, Oniris, Nantes, France

## INTRODUCTION

This study was designed to examine the possibility for veterinarians to locate and to apply data of literature for evidence-based practice in the field of cattle reproduction<sup>1</sup>. Treatment of retained fetal membrane was chosen as an example.

## METHODS AND RESULTS

In a first step, an internet survey was sent to 639 cow breeders and veterinarians, asking them how they did manage the treatment of retained fetal membranes after Calving. It appears that manual removal of placenta is the main treatment employed by 89% of the vets motivated by the request of the breeders and the fear of endometritis. Only 10% consider that it's not useful to remove manually the placenta. Their answers are motivated on what they did learn in their veterinary school curriculum or previous trainings.

In a second step, the treatment was looked for after literature reading with evidence-based veterinarian medicine (EBVM) methods. The study of CAB Abstracts, Science Direct and Medline databases using specific key-words found 271 articles, but only 6 original studies fulfilled EBVM criteria<sup>2</sup>. Manual removal of the placenta seems to be disadvised. The best solution would be to identify the animals that retained their placenta and to treat systemically with antibiotics only febrile cows.

## CONCLUSION

Although the randomized controlled trials are likely lacking concerning the treatment of cows with retained fetal membranes, our study revealed that the use of appropriate database and combination search terms are important to help clinicians for locating relevant EBVM literature. However, only the critical analysis of full-text papers can allow them to find better evidence to support their therapeutic decision.

## REFERENCES

1. Arlt SP, Heuwieser W. Evidence-based Medicine in Animal Reproduction. *Reprod Domest Anim.* 2014;49 Suppl 3:11–5.
2. Drillich M, Klever N, Heuwieser W. Comparison of two management strategies for retained fetal membranes on small dairy farms in Germany. *J Med Syst.* 2007;31(5):337–43.

### 13.6.

#### Randomized comparative study of two products for the treatment of otitis externa in dogs

L. HORSPOOL<sup>1</sup>, J. HUNTE<sup>2</sup> & K. HELLMANN<sup>2</sup>

<sup>1</sup>Global CA Business, MSD Animal Health, Boxmeer, Netherlands;

<sup>2</sup>Klifovet AG, Munich, Germany

Otitis externa is one of the most prevalent diagnoses in canine practice. Small inflammatory changes in the fragile microclimate of the skin in the external ear allow abnormal proliferation of commensal bacteria (*Staphylococcus pseudintermedius*) and yeast (*Malassezia pachydermatis*) or opportunistic invaders. The majority of cases of otitis externa can be treated successfully with topical medication administered into a clean, dry external ear canal. The efficacy and safety of Posatex (MSD Animal Health, Boxmeer, NL – mometasone furoate, orbifloxacin and posaconazole) was compared with Aurizon (Vétoquinol, Lure, France – dexamethasone acetate, marbofloxacin and clotrimazole) in a non-blinded, controlled, randomized and blocked, multicentre clinical field study in dogs with otitis externa.

Dogs (>4 months old,  $n = 152$ ) were enrolled based on clinical signs, cytology and culture. Affected ear canals were cleaned with saline, dried and then treated once daily for 7 days. Treatment success (excellent/good/moderate/poor) was assessed by both veterinarians and owners.

Total clinical scores decreased from 7.5 (95% CI [7.1; 7.9]) and 7.7 [7.3; 8.1] on Day 0 in the Posatex ( $n = 76$ ) and Aurizon ( $n = 76$ ) groups, respectively to 2.5 [2.1; 3.0] and 2.7 [2.3; 3.2] on Day 7. Non-inferiority was confirmed using a confidence interval approach for clinical success. More dogs had normal scores for pain, redness and swelling on Day 7 in the Posatex (67.1%, 32.9% and 61.8%, respectively) than in the Aurizon (55.3%, 28.9% and 60.5%, respectively) group. Both products were well tolerated. The overall assessment by the owner was significantly better for Posatex (38.2% excellent, 51.3% good, 9.2% moderate and 1.3% poor) than for Aurizon (25.0%, 47.4%, 25.0% and 2.6%, respectively) (Mann–Whitney 0.61 [0.53; 0.69], Wilcoxon  $P = 0.0085$ ). Overall treatment success was significantly better for Posatex ( $P = 0.0083$ ) than for Aurizon.