The 2012 International Symposium on Canine & Feline Reproduction (ISCFR) was held in conjunction with the European Veterinary Society for Small Animal Reproduction (EVSSAR) Congress. This quadrennial symposium sought to engage communication between researchers, scholars, and practicing clinicians.

Magnetotherapy: A Non-Invasive Treatment for Benign Prostatic Hyperplasia in the Dog
Benign prostatic hyperplasia (BPH) can be found in >95% of geriatric, intact male dogs. Castration is the most common therapy, but reproductively valuable dogs may be treated pharmacologically. This study evaluated the efficacy of pulsed electromagnetic energy as a noninvasive means of treating canine BPH using 21 geriatric (9.6 ± 2.7 years) intact males of various breeds and sizes (5–42 kg). The dogs included in this study were asymptomatic and had been diagnosed with BPH by cytology evaluation, semen analysis, and ultrasound. Subjects were divided into 3 equal treatment groups (n = 7) based on size (S, M, L) and were treated for 5 minutes q8h with magnetotherapy for 3 weeks. Measurements of prostate diameter and volume were taken before and after treatment. No adverse effects were seen. Prostatic volume reduction in groups S, M, and L was 61%, 48%, and 36%, respectively; average was 48.3%. These results suggested that magnetotherapy may be a conservative option for BPH, although further investigations are needed.—Leoci R, Aiudi G, Silvestre F, Lacalandra GM

Successful Management Permitting Delayed Operative Revision of Cleft Palate in a Labrador Retriever
A Labrador retriever was born with a secondary cleft palate for which he received corrective surgery at 14 months of age. As congenital palate defects may occur in up to 25% of dogs, methods to improve survival of affected puppies are imperative. Ineffective nursing by affected puppies results in failure to thrive and development of aspiration pneumonia and rhinitis. Surgical correction (palatoplasty) in young puppies is difficult because of patient size and growth. This patient was fed the dam's colostrum for 24 hours, followed by artificial bitch milk replacer via intermittent orogastric tube. At 4 weeks of age, the puppy was transitioned to a dry commercial pediatric dog food. Water was provided with an overhead ball-point tube cap system. Surgery for the 14-month old dog was successful, and the patient remained free of rhinitis and aspiration 6 months postoperatively. Feeding dry kibble and offering water from an overhead dispenser may allow puppies with cleft palate to attain adult size before surgical correction.—Davidson AP, Gregory C, Dedrick PG

Canine Mammary Tumors: The Metastatic Potential Can Be Assessed by Expression Analysis of Connective Tissue Modulators
Progressive canine mammary tumors (CMTs) are characterized by a process of connective tissue remodeling whereby the extracellular matrix is cleaved to allow cell migration. This study analyzed the impact of the peptide hormone relaxin (RLX) and its receptors

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on matrix-metalloproteinase expression, genesis of metastases, and survival. CMT samples from 59 bitches were analyzed by quantitative reverse transcription PCR and immunohistochemistry. High mRNA levels of the RLX receptor RXFP1 were positively correlated with metastasis and predicted shorter survival time. RXFP1 is proposed as a new early marker of CMT metastatic potential as well as a possible therapeutic target (RXFP1 antagonist).—Lamp O, Heckmann A, Blaschzik S, Einspanier A

Development of an Individually Based Simulation Model to Compare Predicted Results of Different Intervventional Methods on Feral and Free-Roaming Cat Populations

Using individual cat parameters (eg, number and sex of cats, predicted daily survival rate, litter sizes, pregnancy probabilities), the authors developed a simulation model allowing evaluation of free-roaming cat populations. The model can simulate different forms of intervention, including removal of all trapped cats, castration, vasectomy, ovariohysterectomy, hysterectomy, or any combination thereof. Each run of the model simulates the cat population over a fixed number of days (6000 in this case); the trapping program can be postponed to allow the population to reach a steady size. The results can provide population size over time. For a wide range of trapping rates, vasectomy of males and hysterectomy of females followed by release into the population (TVHR) outperformed castration of male and ovariohysterectomy of females followed by release (standard TNR) and trap-elimination (TE) for controlling cat populations. This model may be useful in determining the effects of different intervention methods on feral cat populations.—McCarthy RJ, Levine SH, Reed M

Kinetics of the Intestinal Barrier Closure in Puppies

The timing of intestinal barrier closure has not been precisely identified in dogs. Mammary secretions from 10 vaccinated beagle bitches were collected 1 or 2 days after whelping, then frozen until use. Five beagles were artificially inseminated and cesarean sections performed 60–61 days after ovulation. The puppies were bottle-fed artificial milk 4qh, except for 1 meal at which they were given previously collected colostrum. Colostrum was given either 0 (n = 4), 4 (n = 3), 8 (n = 3), 12 (n = 4), 16 (n = 3), or 24 (n = 5) hours after birth. Blood was collected for immunoglobulin assay (IgG, IgM, and IgA) just before colostrum, and 4 and 48 hours after. Concentrations of all 3 immunoglobulins were significantly increased 4 hours after colostrum administration and significantly decreased as the time from birth increased. No significant increase was obtained when colostrum was fed 12 hours or later. While the intestinal barrier was permeable to immunoglobulins for the first 12 hours of life, absorption decreased sharply in 4 hours. Attention should be given to maternal suckling soon after birth to optimize immune transfer.—Chastant-Maillard S, Reynaud K, Freyburger L, et al

Brucella canis: A Threat to Canine and Human Health

Brucella canis, an important zoonotic disease that poses a real risk to human and canine health has an unknown prevalence in the United States. An evidence-based review of the disease looked at pathogenicity, epidemiology, and results of therapeutic trials. B canis can be transmitted via mucosal membrane contact with infected tissues, including aborted material, postabortion vaginal discharge, semen, urine, and milk. Transmission most commonly occurs from oral-nasal contact with infected fluids or tissues, contaminated breeding pens and fomites, and aerosolized material. Both neutered and intact dogs are susceptible, and contrary to popular belief, venereal is not the most common transmission. Bacteremia begins 1–4 weeks after infection, persisting for 6 months–5.5 years. The most common signs in dogs are abortion in females and infertility/sterility in males. Infection of nonreproductive organs is uncommon, but uveitis, discospondylitis, osteomyelitis, dermatitis, meningoencephalitis, and glomerulonephropathy from B canis have been reported. Various antibiotics (complete list in original article), used alone and in combination, with and without castration/ovariohysterectomy, have not been curative. In humans, B canis can cause “undulant fever,” osteomyelitis, meningoencephalitis, and endocarditis. During an outbreak of B canis in Michigan from 2007–2010, 153 dogs from 9 kennels and 10 privately-owned dogs were diagnosed with B canis. The outbreak was associated with interstate transport of mixed-breed dogs intended for sale.—Carter T, Johnson C

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