BULLETIN OF THE

PET PRACTITIONERS ASSOCIATION OF MUMBAI

(FOR CIRCULATION AMONGST PPAM MEMBERS)

APRIL - JUNE 2023

Dr. Jairam Ramani appointed as Director for Continuing Professional Development for FASAVA

Excellent Veterinarian Award to Dr. Chaitrali Ashok Avhad

World Veterinary Day, Outstanding Veterinarian Award to Dr. Sangeeta Vengsarkar Shah (First Small Animal Cardiologist in India)

Contents

Bovet Glory group of Retired Professors of Bombay Veterinary College adopts Gadnaral village.

WSAVA Meeting held in Bangkok on 13.06.23. Dr. Bapat, Dr. Archana Bapat and Dr. Umesh Karkare attended the meeting

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Editorial

PPAM needs a Financial Model to be Sustainable

The mission of professional associations like PPAM is primarily educational and informational. This influence flows from PPAM's continuing and highly visible functions organizing the CE program, meeting the industry program, hands-on workshops, and publishing PPAM Bulletin, the aim being to develop professional excellence, raise public awareness, and recognize the work of veterinarians in the respective fields. PPAM through these works, helps to define and set standards for our veterinary profession.

For a professional organization's successful sustenance, financial stability is paramount. Professional organizations have all struggled with the tightrope walk between high professional standards and pressures to balance finances.

Economic parameters in today's world are fast changing. For every CE program depending on sponsors for finances will make things difficult in the future. Attaining professional excellence is not the hardest challenge. Sustaining excellence is the hardest.

It's important to constantly evaluate our financial situation to handle potential risks and prepare for the future. We at PPAM must identify financial trends, spot and fix issues, and have a plan in place to analyze and predict how forthcoming events or changes will affect our financial performance.

Managing finances in PPAM will be teamwork. Teamwork, as opposed to the elevation of stars, is another common thread seen in successful professional organizations. A team can collect more full information compared to an individual while making decisions. An individual while making any decision uses his own intuition and views. While a team has many members, so many views and many approaches and hence better decision making.PPAM members must sit together and prepare a financial model.

A financial model is a mathematical representation of the financial operations and financial statements of a PPAM. A financial model involves outlining a list of all organizational expenses and revenue and using this information to forecast financial performance and improve decision-making.

The model is usually characterized by performing calculations and making recommendations based on that information. It is used to forecast the future financial performance of PPAM by making relevant assumptions of how the PPAM would fair in the coming financial years. It is also a risk management tool for analysing various financial and economic scenarios. These models involve calculations, analysing this information, and then providing recommendations based on the information gathered. A good financial model is accurate, flexible, easy to understand for all PPAM members, and provides valuable insights into the financial health and potential of a PPAM.

Financial modelling will help build budgets and allocate resources based on projections. Another benefit of PPAM developing a financial model is that it allows the PPAM managing committee to make better financial decisions.

So, all PPAM members should actively participate and give their input and ideas in every meeting so that together we can make our PPAM financially stable and progressive.

World Veterinary Day 29.04.2023.
Outstanding Veterinarian Award Function New Delhi.

On the eve of "World Veterinary Day" on 29th April 2023 The Veterinary Council of India and Department of Animal Husbandry, Government of India selected 49 Veterinarians from all over India for the "Outstanding Veterinarian Award''. The awards were presented at the hands of the Honorable Union Minister of Animal Husbandry and Dairying Shri Parshottam Rupla Ji at Vigyan Bhawan, New Delhi.

List of Veterinarians Recognized for
"OUTSTANDING ACHIEVEMENTS & CONTRIBUTIONS"

Sr. No	State	Name	Designation & Address
1.	MAHARASHTRA	**DR. MOHAN BHAGWAT**	Sarsanghchalak, Rashtriya Swayamsevak Sangh, Nagpur, Maharashtra
2.	DELHI	**DR. SANJEEV KUMAR BALYAN**	Indian Political Elected MP IN 2014 and 2019 MOS-Agriculture & Food Processing Hon'ble Minister of State of Fisheries, Animal Husbandry and Dairying, Government of India
3.	DELHI	**DR. NITISH BHARADWAJ**	Former Member of Parliament & Actor, Director, Producer & Screenwriter Best Actor for Pitruroon, Screen Awards Best Director for Pitruroon, Maharashtra State Film Awards
4.	ASSAM	**DR. KUSHAL KONWAR SARMA**	Padmashree Lifetime Achievement Awards from Kaziranga Wildlife Society (2020) Conferred Fellow of Indian Society for Veterinary Surgery Fellow of ISAPM Green Ambassador title from IIT, Guwahati

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5.	HARYANA	**DR. MOTILAL MADAN**	Padma Shree Haryana Vigyanratna Award Introduced Embryo Cloning in Buffaloes in the Country and in the World, He is also known as the Father of Regenerative Biotechnology for his contributions.
6.	GUJARAT	**DR. MAHENDAR PAL**	Padma shree Jawaharlal Nehru Award Developed Techniques, such as Sunflower Seed Agar and APRM Agar (2015) for the study of Fungi. Founder and Managing Director of Narayan Consultancy on Veterinary Public Health and Microbiology, Bharuch, Gujarat
7.	KERALA	**DR. SOSAMMA IYPE**	Padma shree - 2022 Managing Trustee at Vechur Conservation Trust, India Biodiversity Award 2016 Award from the Food and Agriculture Organization (FAO)
8.	UTTAR PRADESH	**BRIG. (DR.) DEEP KUMAR AHLAWAT, VSM**	ARJUN AWARDEE ASIAN GAMES MEDALIST Addl. Director General, RVC
9 .	ANDHRA PRADESH	**DR. K. S. JAWAHAR REDDY**	IAS, Chief Secretary Special Chief Secretary to Government of Andhra Pradesh
10.	GOA	**DR. SUBHASH CHANDRA, IAS**	Secretary (Water Resources), Secretary Transport Govt. of Goa, Panji, Goa
11.	ANDHRA PRADESH	**DR. MANMOHAN SINGH**	Former Special Chief Secretary Former Vice Chancellor, SVVU Tirupati
12.	TAMILNADU	**DR. D. V. R. PRAKASH RAO**	Chairman & Managing Director, Life Time Achievement Award from Animal Nutrition Society of India Life Time Achievement Award for Innovation & Technology development - Times of India - 2022. "Distinguished Life Long Achievement Award" by Trans World Trade Fare Award from "International Institute of Entrepreneurial Development" as Successful Entrepreneur by Crane Field School of Business Management. Outstanding Achievement Award" and National Unity Award" for Outstanding Services
13.	ODISHA	**DR. LT. GEN. NARAYAN MOHANTY**	Former President, VCI In Indian Army Rose up to Lt General. Worked in Rashtrapati Bhavan during the tenure of Hon,ble ex-presidents Sri Venkatraman and Sri Shankar Dayal Sharma and was awarded Param Vishist Seva Medal, Ati Vishist Seva Medal and Vishist Seva etc. Director General of RVC of the Indian Army. International Judge in 1982 Asian Games
14.	DELHI	**PROF. ADITYA KUMAR MISRA**	Ex Chairman ASRB Life time award ISSAR Jawaharlal Nehru Award Nils Legerloff Award
15.	MEGHALAYA	**DR. LAJJA RAM BISHNOI**	Director General of Police, Meghalay

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16.	DELHI	**DR. SURENDRA KUMAR RANJHAN**	Retd. Chief Technical Advisor FAO/UN DP & Livestock Specialist World Bank. Presently Consultant in Indian Meat Export Industry and APEDA, Ministry of Commerce and Industry, Government of India
17.	WEST BENGAL	**DR. AMALENDU CHAKRABORTY**	Former Dean, Veterinary University, Kolkata, West Bengal Academy of Science and Technology (F.W.B.A.Sc.T.) Fellow - Society of Environmental Sciences (F.S.E.Sc.) Fellow - Association of Public Health Veterinarian (F.A.P.H.V.) Fellow - Indian Association For Advancement of Veterinary Research, Indian Society For Veterinary Medicine, etc
18.	J & K	**DR. SHESH PAUL VAID**	Director General of Police (DGP) He worked in different capacities as DIG, IGP in Jammu & Kashmir. He also topped the International Commanders programme at Police staff College at UK.
19.	KARNATAKA	**DR. S ABDUL RAHMAN**	ED-Commonwealth Vet Association Former Dean Special awards from Royal Vet Science Academy, Briotish Vet Association, WHO etc.
20.	GUJARAT	**DR. AMRITA PATEL**	Indian Business Person associated with Cooperative Dairy Sector Former Chairman, NDDB Anand, Gujarat Contributions in worlds biggest Dairy Development: Operation Flood Environmentalist
21.	DELHI	**DR. GADDAM RANJITH REDDY**	Member of Parliament Best Artificial Insemination Technician Award - 2018 Best Field Veterinarian Award - 2018 Limca Book of Awards 2006-07
22.	MADHYA PRADESH	**DR. AJAY VISHNOI**	MLA, Madhya Pradesh Ex-Minister Animal Husbandry & Health, Government of Madhya Pradesh
23.	PUNJAB	**DR. INDERJEET SINGH**	Vice-Chancellor, GADAVASU Ex Director, AHD Panjab Dr. Singh was instrumental in drafting the Dairy Roadmap for Punjab
24.	DELHI	**DR. RAMANUJ BANERJEE**	Scientist - F & Member Secretary Chief Minister Award Young Veterinarian award
25.	DELHI	**DR. B. N. TRIPATHI**	DDG (Animal Sciences) Ex Editor IJVP President IAVP
26.	UTTAR PRADESH	**DR. SUBHASH CHANDRA**	IPS, Special Director General of Police
27.	TAMILNADU	**DR. V. GANAPRAKASAM**	Former VC, Tamilnadu
28.	MAHARASHTRA	**DR. VIJAY RAMCHANDRA TIJARE**	General Manager, Veky's India Ltd., Pune, Maharashtra Experience of 38 years in Poultry Industry. Member of Study Board of Maharashtra Animal and Fisheries Sciences University (MAFSU)

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29.	ANDHRA PRADESH	**DR. PROF. MOHD. HAFEEZ**	Ex. Vice-Chancellor and Director of Research, Ex. Emeritus Scientist. ICAR. Prof. G. K. Manna Memorial Award of the Indian Science Dr. Sarvepalli Radhakrishnan National Award for the outstanding 2017. Life Time Achievement Award - 2013 of National Environmental Science Academy, New Delhi
30.	MADHYA PRADESH	**DR. AVADH BIHARI SHRIVASTAV**	Ex-Director, School of Wildlife Forensic and Health Shaheed Amrita Devi Vishnoi Award - 2005 Member of The Madhya Pradesh State Wildlife Board Excellence Award 2015 by the President, Association of Indian Zoo and Wildlife Veterinarianat New Delhi.
31.	GUJARAT	**DR. SHIVAJIRAO H. DANGE**	IRS, Commissioner, GST in Gujarat. Dr. Shivajirao Dange was instrumental in investigation of tax evasion cases of more than Rs. 2100 Crores and recovery taxes of more than Rs. 1150 Crores. He was 'First LRM'of Customs Risk Management in whole country.
32.	ASSAM	**DR. K. M. BUJARBARUAH**	Former DDG, ICAR & Vice-Chancellor Sardar Patel Outstanding University Award Krishak Ratna Award Harit Ratna and Best Vice Chancellor Award from AAISA, ICAR
33.	MADHYA PRADESH	**DR. J. L . VEGAD**	Former Dean, Life Time Achievement Award from CLFMA Contributed in a very significant manner to poultry farmers
34.	KERALA	**PROF. (DR.) M. R. SASEENDRANATH**	Vice-Chancellor, Kerala Veterinary & Animal Sciences University, Kerala. Chairman & eminent scientist from outside the ICAR system nominated by the DG, ICAR. DDG concerned with the Institute incase of IARI, IVRI, NDRI and NAARM .
35.	HARYANA	**DR. SANGEETA PUNIA**	Scholar at University of Saskatchewan, Canada University of Saskatchewan Halchemix award (2008) Ajinomoto Heartl and Scholarship, Inspiring Lady Veterinrian Award 2021 Powerful Women of Haryana Award (2022) – By LPSBOSSARD and Dainik Bhaskar
36.	KARNATAKA	**DR. K. G. UMESH**	Represents India for ASIAN SOCIETY for Veterinary Dermatology Dr. Umesh is a full time member of the ESVD, ISVM and BSAVA . He represents India for Asian Society for Veterinary Dermatology (AISVD) Lectured in several National and International Veterinary Meetings Awarded Fellow of Animal Nutrition Association.
37.	MAHARASHTRA	**DR. SANGEETA VENGSARKAR SHAH**	Was an observer at Cardiopet, New York under Dr. Tilley. Learned basic echocardiography under Dr. Rebecca Gompf at University of Pennsylvania. Started the Jain Samaj Europe Cardiac Center in BSDPHA, Parel, Mumbai

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38.	KARNATAKA	**DR. VISWANATHA REDDY**	Retd. Professor AROG, Veterinary College, Bangalore
39 .	DELHI	**DR. RAMA KUMAR V.**	Founder Secretary, VCI R. Swaminatha Iyer Memorial Prize for the. Expert Member, Selection Committee of Ministry of Environment and Forestry and Ministry of Social Justice & Empowerment. Vice-chairman, WWF for Nature India: Kerala State Office (during 2003-05) Member Secretary on Draught Nimal Power, Animal Welfare and Disaster Management during 10th five year plan preparation in 2001 Member of Technical Advisory Committee Zoo & Member Technical Committee on Rabies Control
40.	TELANGANA	**DR. LAKSHMI SRINIVASAN**	Chief Veterinarian Chief Veterinary Officer in Blue Cross of Hyderabad Pace Best Practitioners Award in 2007 First Lady Veterinarian to start full time 24/7, Small Animal Practice in India
41.	DELHI	**DR. OM MANCHANDA**	Managing Director, Dr. Lal Path Labs Ltd (2005) Howard Business School IIM
42.	MAHARASHTRA	**DR. P. ANBALAGAN, IAS**	IAS Assistant Collector, Solapur & Karad (2002-04) Joint CEO, Maharashtra Industrial Development Corporation (2011-15) Member Secretary and CEO, Maharashtra Pollution Control Board (2015-18) CEO, Maharashtra Industrial Development Corporation (2018 - Present)
43.	SIKKIM	**DR. DURGA PRASAD PRADHAN**	Additional Director, Poultry Development, Sikkim
44.	GUJARAT	**DR. AMIT N. KANANI**	Deputy Director of Animal Husbandry
45.	DELHI	**DR. SAJJAN SINGH YADAV**	Additional Secretary, Department of Expenditure, Ministry of Finance, Government of India MPA - Harvard, MBA Finance
46.	ASSAM	**DR. AMBIKA DEKA**	Manager, District Poultry Farm KARMASHREE Chief Minister's Award for Excellence in Public Administration 2019 -20 by Honorable Chief Minister, Govt. of Assam.
47.	RAJASTHAN	**DR. GOVIND RAM CHOUDHARY**	Senior Veterinary Officer, Best AI Technical award - 2018 Best Field f Veterinarian Award - 2018 Limca Book of Awards 2006-07
48.	GUJARAT	**DR. SANJAY T. DESAI**	IRMA graduate Chairman, All Gujarat Veterinarians Social Security Trust Chairman, Gujarat Environmental Service Society
49 .	RAJASTHAN	**COL. PRADEEP POONIA**	Chief of Army Staff Commendation Card in 2005. Vice Chief of Army Staff Commendation Card in 2008. Chief of Army Staff Commendation Card in 2009. DG ITBP Commendation Card in 2010 (Ministry of Home, Govt of India). DG ITBP appreciation regarding Dog's deployment during CWG 2010 in Delhi. DG ITBP Commendation Card in 2011.

livo

Liver Repair, Support & Detoxification Supplement

150 ml, 250 ml & 500 ml Suspension

Directions for Use:

Shake well before use. Give recommended dose once daily either directly or mixed with

Toy Breeds: 2.5 ml
Small Breeds: 5 ml
Medium Breeds: 10 ml
Large Breeds: 15 ml
Giant Breeds: 20 ml

Or as directed by the veterinarian

Composition per 10 ml: 296.54 mg
Tricholine Citrate, Silymarin, Phosphatidycholine, Artichoke Leaf Ext., Quercetin, N-Acetylcysteine, L-Ornithine, Vitamin B_3 (Niacin), Vitamin B_1 (Thiamine), Vitamin B_5 (Pantothenic Acid), Vitamin B_2 (Riboflavin), Vitamin B_9 (Folic Acid), Curcumin Ext, Vitamin B_6 (Pyridoxine), Vitamin B_7 (Biotin), Selenium Dioxide & Vitamin B_{12} (Cobalamine).

Silymarin, N-Acetylcysteine & Tricholine Citrate: Protect, repair and regenerate liver tissue & aid in detoxification.
Quercetin: Helps reduce liver inflammation & has antioxidant properties.
Artichoke Leaf Ext: Helps in detoxification & boosts liver health.
Phosphatidylcholine: Protects the liver from toxicity & maintains integrity of cell membrane.
Curcumin Extract: Has antioxidant, anti-inflammatory, anti- microbial benefits, helps to break down fats & remove waste to promote liver health.

- Repairs, regenerates & protects the liver
- Antioxidants aid in detoxification
- Supports recovery from infections & diseases
- Helps in treatment of Irritable Bowel Disease (IBD)

Benefit of Liver Supplements in Dogs

Ms. Rajas Kulkarni, BSc (Zoology) Mumbai & Veterinary Nursing (UK)
Director - Venttura BIOceuticals Pvt. Ltd.

The liver is an essential organ that plays a vital role in the digestion, metabolism, immunity and detoxification of the body. Certain conditions such as liver disease, obesity, aging, and exposure to toxins can impair liver function, leading to a range of symptoms and health issues. Liver supplements for dogs are typically formulated to support liver function and health.

Liver supplements for dogs may contain a variety of ingredients, including vitamins, minerals, amino acids, antioxidants, and herbs, that are believed to support liver health. Liver supplements improve liver function, reduce inflammation, increase antioxidant protection and enhance immune function. Some common ingredients found in liver supplements include:

1. **Silymarin:** It is a flavonoid extracted from the seeds of the milk thistle plant. Its antioxidant properties help reduce inflammation which can be beneficial in conditions like IBD. It helps improve digestive health by promoting the growth of beneficial gut bacterial & reducing inflammation in the gut. It helps in stabilizing liver cell membranes, preventing toxic substances from entering the cells and causing damage, especially in cases of liver diseases. It has hepatoprotective properties stimulating the growth of new liver cells and helping to prevent damage from toxins. Silymarin has been shown to stimulate the regeneration of liver cells, helping the liver to heal and recover from injury or disease. It helps to reduce inflammation in the liver by inhibiting the production of pro-inflammatory cytokines and other inflammatory mediators.
2. **Tricholine Citrate:** It contains choline that is required for the proper functioning of several physiological processes, including liver function, nerve & cognitive function, and muscle movement. It helps to support liver function by promoting the production of phospholipids, which are essential components of cell membranes. This can help to improve liver function in dogs with liver disease. It aids in detoxification and improves digestion by promoting bile production.
3. **N-Acetyl Cysteine (NAC):** It is a form of the amino acid cysteine, which plays a crucial role in the body's production of the antioxidant glutathione. It has been shown to protect liver cells from damage and increase glutathione levels, which can help detoxify the liver. It enhances immune function in dogs by increasing the production of WBCs, reduces oxidative stress & has anti-inflammatory properties. NAC can help dogs with respiratory conditions such as chronic bronchitis or pneumonia. It works by breaking up mucus and reducing inflammation in the airways. NAC is commonly used as an antidote for paracetamol (acetaminophen) toxicity in dogs. It works by restoring glutathione levels and preventing liver damage.
4. **Quercetin & L-Ornithine:** Quercetin is a flavonoid found essentially in plants; L-Ornithine is an amino acid. Both have potent antioxidant, anti-inflammatory, immunity boosting and hepatoprotective properties. Quercetin is known to have anti-cancer benefits. L-ornithine helps the liver to detoxify harmful substances, such as ammonia through the synthesis of urea.
5. **Turmeric Extract:** It is derived from the root of the turmeric plant, and it contains a compound called curcumin, which has been shown to have a number of health benefits for dogs. Curcumin has anti-inflammatory, antioxidant, immunomodulatory, anti-cancer and hepatoprotective properties that boost liver health and function. It also aids in detoxification, stimulates bile production for better digestion and nutrient absorption.
6. **Phosphatidylcholine:** It is a type of phospholipid that is found in cell membranes and is essential for the proper function of many organs, including the liver. It has been shown to promote the regeneration of liver cells benefiting dogs with liver disease or damage. It helps in the metabolism of fats in the liver, preventing the accumulation of fat in the liver. It has antioxidant, anti-inflammatory and immune-modulating effects; all of which improve liver health and function.
7. **Selenium:** It is an essential mineral that plays an important role in maintaining the health of the liver, among other organs in dogs. It is required for the production of glutathione, a powerful antioxidant that helps to protect cells against damage from free radicals. It also aids in detoxification and boosts the immune system.

Given the multi-faceted role the liver plays, it is of vital importance to keep the liver healthy and functioning optimally. Liver function can be compromised due to various causes. **Venttura Petraceuticals 2.0 Livo+** helps in repair & regeneration of the liver, detoxification and improving liver function. **Livo+** is a complete liver support supplement that contains the full spectrum of nutrients needed for protecting & supporting liver repair and for maintaining liver functioning.

Excellent Veterinarian Award to Dr. Chaitrali Ashok Avhad, Livestock Development Officer.

Excellent Veterinarian Award to Dr. Chaitrali Ashok Avhad, Livestock Development Officer, Veterinary Dispensary, Kedgaon, Taluka Daund, Pune District.

The distribution of the District-level Awards ceremony for the year 2022-23 was held on 28/03/2023 by the Animal Husbandry Department, Pune District Council. Dr. Chaitrali Ashok Avhad, Livestock Development Officer, Veterinary Dispensary, Grade 1-Kedgaon, Taluka Daund, Pune District was honoured with the 'Excellent Veterinarian Award' for the year 2022-23 by Honorable Shri. Chandrakant Dada Patil, Minister of Higher and Technical Education, and Guardian Minister of Pune district. She is the only lady veterinarian to receive this award. The ceremony was presided over by Mr. Ayush Prasad, Chief Executive Officer, and Administrator, Mr. Chandrakant Waghamare, Additional Chief Executive Officer, and Dr. Shivaji Vidhate, District Animal Husbandry Officer, Pune District Council.

Dr. Jairam appointed as Director for Continuing Professional Development for FASAVA

Nutritional Requirements for Puppies: Building a Strong Foundation

Dr. Adarsh J.
Assistant technical and Product manager, Drools Pet Food Pvt. Ltd.

Puppies are bundles of joy, full of energy, and eager to explore the world around them. As they embark on their journey of growth and development, providing them with the right nutrition is crucial. Adequate nutrition during their puppyhood lays the foundation for a healthy and thriving life. In this article, we will delve into the unique nutritional needs of puppies during their growth stages, with a particular focus on appropriate protein and nutrient levels, calorie requirements, and the essential balance of calcium-to-phosphorus ratios for optimal bone development.

1. Understanding the Growth Stages in puppies

a. Neonatal Period (0-2 Weeks):

The neonatal period is the first stage of a puppy's life, characterized by their dependency on their mother and littermates. During this time, puppies are blind, deaf, and completely reliant on their mother for warmth, nutrition, and stimulation. Pet owners should ensure a clean and comfortable environment while allowing the mother to care for her puppies.

b. Transitional Period (2-4 Weeks):

The transitional period marks a significant milestone as puppies begin to open their eyes, hear sounds, and gain mobility. They start to transition from a solely milk-based diet to consuming solid food. This period is an ideal time for introducing gentle handling, early socialization, and supervised interactions with humans and littermates.

c. Socialization Period (3-12 Weeks):

The socialization period is a critical stage for a puppy's emotional and behavioral development. Puppies become more independent and curious, exploring their surroundings and forming attachments with humans and other animals. This period is ideal for exposing puppies to various stimuli, such as different people, animals, environments, sounds, and experiences, to promote positive socialization and prevent fear and anxiety later in life.

d. Juvenile Period (3-6 Months):

The juvenile period is characterized by continued growth and maturation. Puppies become more active, playful, and energetic, as they refine their motor skills and coordination. This stage also marks the eruption of permanent teeth, requiring appropriate dental care and introducing chew toys to promote healthy oral habits. Additionally, maintaining a balanced diet with proper nutrition and portion control is crucial to support their growth and prevent obesity.

e. Adolescent Period (6-12 Months):

The adolescent period is the final stage of puppyhood, where puppies reach sexual maturity and experience hormonal changes. They may exhibit some challenging behaviors, including increased independence, testing boundaries, and potential temporary regression in training. Consistency, positive reinforcement, and continued socialization and training are important during this stage to help them transition into well-behaved adult dogs.

2. Appropriate Protein and Nutrient Levels in Puppies

a. The Role of Protein in Puppy Nutrition:

Protein is essential for the growth and repair of tissues, the development of strong muscles, and the formation of enzymes and hormones. Puppies require higher levels of protein than adult dogs due to their rapid growth rate. Look for high-quality protein sources in puppy food, such as lean meats (chicken, turkey, beef), fish, eggs, and plant-based proteins like legumes. The Association of American Feed Control Officials (AAFCO) recommends a minimum protein content of 22% for growth and 18% for maintenance in puppy food.

b. Essential Nutrients for Optimal Growth:

In addition to protein, puppies require a balanced mix of essential nutrients to support

their overall growth and development. These include:

a. **Carbohydrates:** Carbohydrates provide energy for active puppies. Look for quality carbohydrates like whole grains, vegetables, and fruits in their diet.

b. **Fats:** Healthy fats are a concentrated source of energy and aid in the absorption of fat-soluble vitamins. Choose puppy food with appropriate levels of essential fatty acids like omega-3 and omega-6.

c. **Vitamins:** Vitamins play a vital role in a puppy's immune function, vision, bone development, and overall health. Ensure their diet includes a variety of vitamin-rich foods or consider supplements if recommended by a veterinarian.

d. **Minerals:** Essential minerals, such as calcium, phosphorus, iron, and zinc, are critical for bone development, blood cell formation, and enzyme function. Balancing the ratios of these minerals is crucial, especially calcium and phosphorus, to prevent skeletal abnormalities.

c. **Choosing the Right Puppy Food:**

When selecting puppy food, opt for high-quality commercial puppy formulas that meet AAFCO guidelines for growth and development. Read the ingredient list to ensure that animal proteins are the primary ingredients and that the food contains a variety of nutrients. Avoid artificial preservatives, colors, and fillers. Consult with your veterinarian to determine the specific nutritional needs of your puppy based on factors such as breed, size, and any individual health considerations.

d. **Feeding Guidelines:**

Follow the feeding guidelines provided by the puppy food manufacturer, but remember that individual puppies may have unique requirements. Monitor your puppy's body condition, growth rate, and energy levels, and make adjustments as needed. Avoid overfeeding, as excessive weight gain can lead to skeletal problems and obesity. Dividing meals into multiple small feedings throughout the day can aid in digestion and prevent overeating.

Understanding Calorie Needs in Puppies:

Puppies have higher energy requirements compared to adult dogs due to their rapid growth, increased activity levels, and developing organ systems. Calories provide the energy necessary for bodily functions, growth, and physical activity. Providing the appropriate amount of calories helps prevent stunted growth or excessive weight gain, both of which can impact a puppy's health and well-being.

Factors Influencing Calorie Requirements:

Several factors influence a puppy's calorie needs, including:

a. **Age and Growth Stage:** Calorie requirements vary throughout different growth stages, with higher energy needs during rapid growth periods.

b. **Breed and Size:** Different breeds and sizes have varying metabolic rates and growth rates, leading to differences in calorie requirements. Larger breeds may have lower calorie needs per unit of body weight compared to smaller breeds.

c. **Activity Level:** Puppies with higher activity levels, such as those engaging in vigorous play or training sessions, require more calories to fuel their energy expenditure.

d. **Neutering/Spaying:** Neutered or spayed puppies may have slightly lower calorie needs due to changes in hormone levels and decreased activity levels.

3. Calorie requirement in puppies

Calculating Calorie Requirements:

Determining precise calorie requirements for puppies can be challenging, as individual variations exist. Consultation with a veterinarian is essential to obtain accurate recommendations tailored to your puppy's specific needs. However, general guidelines suggest that puppies require approximately twice the number of calories per unit of body weight compared to adult dogs.

Feeding Guidelines:

Follow the feeding guidelines provided by the puppy food manufacturer as a starting point, but be prepared to make adjustments based on your puppy's individual needs. Monitor their body condition regularly to ensure they are neither

underweight nor overweight. If a puppy is gaining excessive weight, reducing the portion size or choosing a lower-calorie food may be necessary. On the other hand, if a puppy is not gaining weight or appears underweight, increasing portion sizes or selecting a higher-calorie food can be considered.

Treats and Training:

Remember that treats used for training or rewards contribute to your puppy's daily calorie intake. Use treats sparingly and consider low-calorie options or incorporate their regular food into training activities. This approach helps maintain a balanced calorie intake and prevents excessive weight gain.

4. Calcium-to-Phosphorus Ratio for Proper Bone Development

Understanding Calcium and Phosphorus:

Calcium and phosphorus are two of the most abundant minerals in a puppy's body and are crucial for bone formation, muscle function, nerve transmission, and various metabolic processes. Calcium provides the structural integrity of bones, while phosphorus is essential for energy metabolism and cell function. The balance between these minerals is crucial for proper bone growth and mineralization.

The Importance of the Calcium-to-Phosphorus Ratio:

Maintaining the correct ratio of calcium to phosphorus is essential for optimal bone development in puppies. An imbalance in this ratio can lead to skeletal abnormalities, such as hypertrophic osteodystrophy or skeletal malformations. Excessive calcium or phosphorus intake can interfere with the absorption and utilization of the other mineral, potentially compromising bone health.

Recommended Calcium-to-Phosphorus Ratios:

The ideal calcium-to-phosphorus ratio for puppies is approximately 1.2:1 to 1.5:1. This ratio ensures that calcium and phosphorus are properly absorbed and utilized by the growing bones. It is important to note that the total amount of calcium and phosphorus in the diet is also crucial, not just the ratio.

Achieving the Right Balance:

To maintain the proper calcium-to-phosphorus ratio in your puppy's diet:

a. **Choose Quality Puppy Food:** Select a high-quality commercial puppy food that is specifically formulated to meet the nutritional needs of growing puppies. These formulas typically contain the correct balance of calcium and phosphorus.

b. **Avoid Excessive Supplementation:** Unless recommended by a veterinarian, avoid excessive calcium or phosphorus supplementation, as it can disrupt the delicate balance and lead to imbalances.

c. **Consult with a Veterinarian:** If you are feeding a homemade or raw diet, consult with a veterinarian or a veterinary nutritionist to ensure that your puppy's diet provides the appropriate balance of calcium and phosphorus.

Conclusion

Providing proper nutrition for puppies is essential for their overall growth, development, and long-term health. Understanding the unique nutritional needs of puppies during their growth stages, including appropriate protein and nutrient levels, calorie requirements, and the balance of calcium-to-phosphorus ratios, is crucial for building a strong foundation. By ensuring puppies receive a well-balanced and age-appropriate diet, pet owners can contribute to their puppy's healthy bone development, optimal growth, and a vibrant future. Always consult with your veterinarian for personalized advice on your puppy's nutritional requirements and dietary recommendations.

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SCAN TO KNOW MORE

A Review of Therapeutic Diets for Skin Issues

Dr. Punitha G.
MVSc (Animal Nutrition)
Asst. Product & Techno Commercial Manager, Drools Pet Food Pvt. Ltd.

Nutrients that play a key role in skin and coat health

The skin is a large, metabolically active organ with a high physiologic requirement for protein and other nutrients. It is not surprising, therefore, that subtle changes in its nutrient supply can have a marked effect on skin and coat conditions. Nutritional deficiencies are uncommon as a result of the widespread feeding of complete and balanced pet foods that meet the nutrient profiles specified by expert panels and regulatory bodies.

However, deficiencies may arise when the animal's intake is reduced, when the diet is poorly formulated or stored, or when the animal is unable to digest, absorb or utilize the nutrient as a result of disease or genetic factors. Dietary interactions that reduce nutrient availability can result from errors in formulation, prolonged storage or injudicious over-supplementation of an otherwise balanced diet. A few of the nutrients which play a major role in skin and coat health are discussed in this review article and these nutrients can help in maintaining proper skin and coat health.

Protein

Hair is composed of ;95% protein, which is rich in sulfur-containing amino acids, methionine and cystine. Normal growth of hair and keratinization of the skin thus create a high demand for protein and may account for between 25 and 30% of the animal's daily protein requirement (Scott et al. 1995). Failure to meet the demands may cause brittle, depigmented hair, which is easily shed and slow to regrow, excessive scaling and thin, inelastic and hyperpigmented skin. Protein deficiency usually does not happen as such but special cases like increased protein requirement during growth, pregnancy and lactation, Malnutrition conditions, Pancreatic insufficiency and protein-losing nephropathies & enteropathies. Dietary correction includes providing pet foods that includes high-quality protein sources like hydrolyzed chicken, fish protein eggs and milk.

Essential fatty acids

Dogs and cats are unable to synthesize linoleic acid; thus, a dietary source is essential in both species. In addition, cats exhibit low D-6 desaturase activity and cannot meet their physiologic requirement for arachidonic acid through biotransformation from linoleic acid (Rivers et al. 1975). Consequently, both linoleic acid and arachidonic acid are considered essential nutrients for cats (MacDonald et al. 1983).

Essential fatty acids have a structural role in cell membranes, act as precursors for eicosanoids such as prostaglandins and leukotrienes, and are vital for maintaining normal skin structure and function. Of the (n-6) PUFA, linoleic acid [18:2(n-6)] is involved in the maintenance of the cutaneous water permeability barrier, and arachidonic acid [20:4(n-6)] regulates epidermal proliferation via prostaglandin E2. Levels of PUFA may also be depleted in food after oxidative damage resulting from prolonged storage or in cases in which antioxidants such as vitamin E are included in inadequate amounts. Rarely, fatty acid deficiency may occur in association with fat malabsorption due to hepatic, pancreatic or gastrointestinal disease. Vegetable oils, such as sunflower oil, are a rich source of linoleic acid, but arachidonic acid is found in quantity only in animal fats.

Conditions that may respond to essential fatty acid supplementation include canine atopy, flea-allergic dermatitis and feline miliary eczema. It has also been suggested that dogs with atopic dermatitis may have an impaired ability to convert linoleic acid to the longer-chain (n-6) PUFA and their derivatives, and may benefit from dietary fatty acid supplementation (Harvey 1993).

Zinc

Zinc plays a critical role in regulating many aspects of cellular metabolism, a number of which are concerned with the maintenance of a healthy coat and skin. Zinc is an integral component of a wide range of metalloenzymes and, as a cofactor for RNA and DNA polymerases, its presence is of particular importance in rapidly dividing cells, including those of the epidermis. Zinc is also essential for the biosynthesis of fatty acids, participates in both the inflammatory and immune systems and is involved in the metabolism of vitamin A. In the adult, signs of zinc

deficiency are confined mainly to the skin, but these may be accompanied by growth and other abnormalities in young animals. Absorption of zinc can be inhibited by excessive levels of dietary calcium, iron and copper, which compete with zinc for intestinal absorption sites. Dietary phytate, which is found in cereal-based diets, chelates zinc, and high levels may also hinder intestinal zinc absorption. Historically, most cases of zinc-responsive dermatosis in dogs were associated with the feeding of poor quality, cereal-or soy-based dry foods, whose effects may have been exacerbated in some animals with a simultaneous inherent defect of zinc absorption. Prolonged enteritis and other malabsorption syndromes may also cause zinc deficiency.

Clinically, two zinc-responsive dermatologic syndromes are recognized. Syndrome I is associated with defective intestinal absorption of zinc. Syndrome II is usually seen in rapidly growing puppies, particularly of the giant breeds, and may correspond with a high metabolic requirement for zinc in affected animals. The condition occurs when the diet is absolutely or relatively deficient in zinc, and is most likely to be seen when the diet is high in phytate or is over-supplemented with calcium.

Vitamin A

Vitamin A (retinol and its derivatives) has many physiologic functions and is involved in the regulation of cellular growth and differentiation. It is essential to maintain the integrity of epithelial tissues and is particularly important for the keratinization process. Both deficiency and excess of vitamin A can give rise to cutaneous lesions of hyperkeratinization and scaling, alopecia, poor hair coat and increased susceptibility to microbial infections (Scott et al. 1995). Cats require a dietary source of preformed retinol because, unlike dogs, they are unable to utilize the retinol precursor, b-carotene (Brewer 1982). In true deficiency syndromes, vitamin A therapy should not exceed 400 IU/(kg z d) orally or a single injection of 6000 IU/kg, which need not be repeated for over 2 months (Scott et al. 1995).

Vitamin E

Vitamin E is a natural antioxidant and, together with selenium, is important for maintaining the stability of cell membranes. As a free radical scavenger, it protects cells from the potentially damaging effects of toxic oxygen radicals, whose major source is lipid metabolism. The dietary requirement of vitamin E, therefore, is linked to the dietary intake of PUFA, and high fat diets can induce a relative deficiency of vitamin E. Similarly, levels of vitamin E may be depleted after the oxidation of fat during processing or prolonged storage of food. There is no record of naturally occurring vitamin E deficiency in dogs. However, supraphysiologic doses of vitamin E have been used in the treatment of canine discoid lupus erythematosis and primary acanthosis nigricans with variable successes reported (Werner and Harvey 1995).

Vitamin B

The B-complex vitamins are involved as cofactors in many metabolic functions, especially energy metabolism and synthetic pathways. Because they are water soluble, they are not stored in the body; however, the animal's daily requirements can normally be met from a combination of dietary sources and intestinal microbial biosynthesis. Deficiencies may occur, nevertheless, after prolonged oral antibiosis, anorexia or when water loss is increased as in polyuric conditions or enteritis. Occasionally, deficiencies of individual B-group vitamins arise as a result of interaction with other dietary components. In general, skin lesions associated with deficiencies of B group vitamins include dry, flaky seborrhea and alopecia. Biotin deficiency produces a characteristic alopecia around the face and eyes with crusting in severe cases. This condition may occur in the unusual circumstance of feeding large amounts of raw egg whites which contain avidin, a protein that binds biotin and prevents its gastrointestinal absorption. Niacin is synthesized from tryptophan by all animals except cats (Scott et al. 1995), and a deficiency is possible only when the diet is low in animal protein and high in corn or other cereals that are a poor source of tryptophan.

Nutritional supplementation for Therapeutic effects

Supraphysiologic doses of nutrients have been used in the management of certain skin diseases. In such cases, nutrient supplementation is likely to have a pharmacologic effect rather than merely correcting a deficiency. Supplementation with g-linolenic acid, generally in the form of evening primrose oil, and eicosapentaenoic acid, as marine fish oils, has been studied in both dogs and cats with pruritic skin diseases. The potential benefit of fatty acid supplementation was assessed in a survey of North

American veterinary dermatology specialists (Logas 1995). In this survey, 90% of respondees believed dietary fatty acid supplements to be useful, with nearly 50% using them in 75% of pruritic cases.

Mandates for therapeutic skin & coat diets

- Selected source of protein & carbohydrates - reduced food allergy.
- Optimum level of omega 6:3 - healthy skin & coat
- Aloe vera - natural skin defence
- Bromelain - anti-inflammatory properties

All these above-mentioned nutritional corrections are mandated in Drools Vet pro Renal dry food in order to therapeutically solve Skin issues in dogs.

Conclusion

Dietary factors have a major role in the maintenance of healthy coat and skin, and are significant in the etiology and therapy of certain skin diseases. Nutritional deficiencies are now uncommon as a result of the widespread feeding of complete and balanced pet foods. Deficiencies of (n-6) polyunsaturated fatty acids, zinc and vitamins, however, do arise in certain animal- or product-related instances. There is also preliminary experimental evidence that specific dietary (n-6):(n-3) fatty ratios are useful in the dietary management of inflammatory diseases.

Reference

Brewer, N. R. (1982) Nutrition of the cat. J. Am. Vet. Med. Assoc. 180: 1179–1182.

Harvey, R. G. (1993) Nutritional therapy. In: BSAVA Manual of Small Animal Dermatology. (Harvey, R. G. & Mason, I. S., eds.). Br. Small Anim. Vet. Assoc., pp. 244–250.

Logas, D. (1995) Systemic nonsteroidal therapy for pruritus: the North American experience. Proceedings of 19th WALTHAM/OSU Symposium Dermatology, pp. 32–36.

MacDonald, M. L., Rogers, Q. R. & Morris, J. G. (1983) Role of linoleate as an essential fatty acid for the cat independent of arachidonate synthesis. J. Nutr. 113: 1422–1433.

Rivers, J.P.W., Sinclair, A. J. & Crawford M. A. (1975) Inability of the cat to desaturate essential fatty acids. Nature (Lond.) 258: 171–173.

Scott, D. W. (1995) What's new on canine dermatology? In: Proceedings of 12th Annual Congress of European Society of Veterinary Dermatology, Barcelona, Spain, pp. 163–165.

Werner, A. & Harvey, R. G. (1995) Diet and veterinary dermatology. WALTHAM Focus 5: 11–19. Wills, J. M. & Halliwell, R.E.W. (1994) Dietary Sensitivity. In: The WALTHAM Book of Clinical Nutrition of the Dog and Cat (Wills, J. M. & Simpson, K. W., eds.), pp. 167–188. Pergamon Press, Oxford, UK.

Proud Moment for PPAM Members.

PPAM Member **Dr. Hitesh Swali** delivered a lecture on Feline Medicine on 25.06.2023 at Vijaywada.

Bovet Glory Group Continues Social Service

in Gadnaral village of Ratnagiri, Maharashtra.

Dr. P. G. Birajdar

'BOVET Glory' - Bombay Veterinary College retired Professors group continues its obligation towards society.

During the last few visits to flood relief camps, it was felt that we need not wait for calamities to happen. A long-term project of social service must be considered. Therefore, it was decided that a remote village be adopted for the Rural Development Work. Dr. Prashant Kamble, Regional Joint Commissioner Konkan Region, was involved in this process.

In the month of April 2023, Dr. Prashant Kamble visited Konkan Region as his routine work. As per our request, he discussed the possibility of adopting a village and collected all the relevant information related to this in the Konkan region. After, a few rounds of discussions with him and his staff, we decided to select a village from Ratnagiri District. After a telephonic discussion with Dr. Jagdale, Dr. Kasalkar, Dr. Kanase and Dr. Kale, we concluded to adopt "GADNARAL" a village from Ratnagiri District located about 55 km from district headquarters.

Gadnaral is a remote village with a human population of 744; cattle and buffalo population of 361 with no milking animals and 40 goats. The opinion of Dr. Kasalkar, Dr. Kanase, and Dr. Kale, and district officers Dr. Jagdale and Dr. Narute was anonymous about the village and hence in consultation with Dr. Prashant Kamble, we decided to adopt the village "GADNARAL".

On 11th May 2023, Dr. P. M. Puntambekar, Dr. C. C. Wakankar, and Dr. P. G. Birajdar visited to the village along with Dr. Prashant Kamble and his staff. The staff had organized a meeting with the villagers. The team, Dr. Prashant Kamble, and his staff discussed their current condition and requirements with the villagers. The team took round of the village to formulate future plans.

As a first step, we decided to provide goat and cattle feed (For the Growers and Young Stock) free of cost every month to the livestock owners, costing about 9000/- rupees. The feed for the month of June and deworming medicine has been distributed through the personal contribution of Dr. Puntambekar, Dr. Wakankar and Dr. Prashant Birajdar.

The second step involved providing vegetable seeds and Mango / Lemon / Tissue cultured Banana plants to the villagers in the month of July depending on the availability. We have already approached the vegetable specialist and horticulture department of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli. The vegetable seeds and the grafts will be purchased from the University and provided to the farmers.

The progress of the work will be reviewed after 3 months and modified, if necessary, with any addition or deletion. We request all members to come forward and associate themselves with this Nobel work. For contributions to this endeavor, you may contact to Dr. Prashant Birajdar (9869248795).

Pregnant Turtle Surgery

Dr. Kirti Sathe and Dr. Priti Sathe.

Sunday,16th April, it was a regular chaotic Sunday at himis bark veterinary clinic, might also be a regular Sunday for some school going kids in Navghar, Mulund which they spend fishing in nearby waterbody and suddenly experienced something very heavy on the fishing string, on retracting a huge soft shell turtle was found with fishing hook stuck in the mouth and after countless failed attempts to withdraw the hook, the kids appealed for help, that's when Save wildlife Organization got the Indian Soft Shell turtle to the clinic.

The Indian Soft shell turtle is commonly found in freshwater habitats and its distribution is restricted to the Ganges, Indus and Mahanadi rivers in northern and eastern India. It feeds mostly on fish, amphibians, carrion and other animal matter, but also takes aquatic plants. This turtle is listed in part II of Schedule I of the Wild Life (Protection) Act, 1972

On clinical examination, the chelonian weighing 4kgs, appeared alert, active, assessment of skin turgor showed it was well hydrated and the hook involved the tongue and was lodged in the lower jaw, making it extremely painful, due to which the turtle couldn't retract its neck or close the mouth, the lateral and dorsoventral radiographs confirmed the position of the hook with almost 8 eggs in the abdomen

Decision of mild sedation and removal of hook was taken, the turtle was placed horizontally subcutaneous fluids were administered in the prefemoral fossa between the neck and front limb, few minutes later Inj atropine @0.01mg/kg subcutaneously along with inj Enrofloxacin @5mg/kg intramuscularly were administered prior to the procedure.

A cocktail of Inj Ketamine and inj butorphanol was administered intramuscularly @20mg/kg and 0.4mg/kg respectively, to obtain mild sedation, muscle relaxation and analgesia,topical lignocaine 2% gel and botroclot drops were used.

The turtle was placed in sternal recumbency, as the visibility was poor, oral cavity was kept opened with a forcep while mild traction was used to extract the hook by Dr Kirti Sathe and Dr Priti Sathe, although it took long time but the hook was extracted without any bleeding or any tear in the tissues.

The turtle was kept under observation in a dark heated box, complete recovery was observed within an hour, and was then handed over to Mumbai Range Forest Department for further observation.

Was then released in the natural environment after 48hrs.

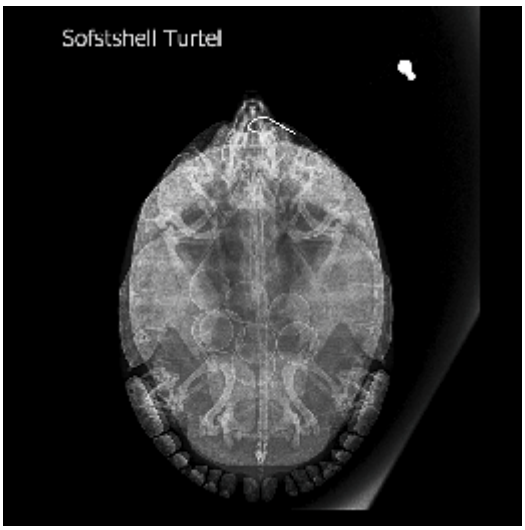
Enrofloxacin@5mg/kg

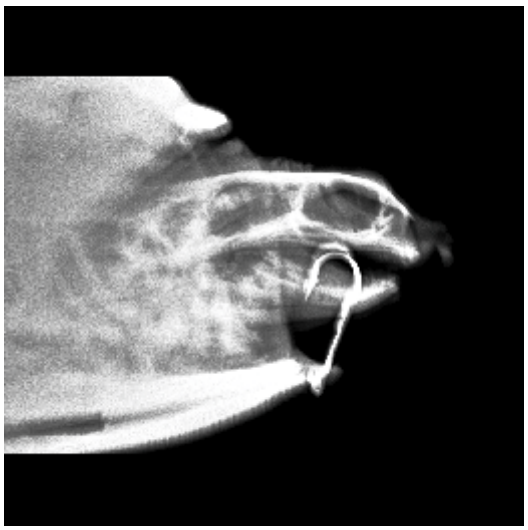
Atropine @0.01mg/kg

Butorphanol @0.4mg/kg im

Ketamine @40mg/kg

Prefemoral fossa between neck and front limb





Laparoscopic Cholecystectomy in a Dog

Dr. Narendra Pardeshi

The incidence of gallbladder infection, gall bladder sludge, and Gall bladder stones are quite frequent in dogs. Mostly in the Veterinary field, an attempt is made to manage this with medical treatment with some oral liver corrective medicine and supplements.

In the present case, it was a 3-year-old dog, a Doberman dog named Dobby of pet parent Mr. Vijay Badade. Dobby was suffering from gallbladder sludge and chronic cholecystitis which was not responding to medication. It was decided to go for laparoscopic cholecystectomy under General Anesthesia. An incision of 1 cm for the camera and four incisions of 0.5cm for passing the instrument were taken. Successful removal of the gall bladder by application of hemoclip was performed, by ligating the common bile duct. The team of Surgeons consisted of Dr. Shashank Shah, Dr. Susheel Kharat, and Vet Assistant Reena Haribhat. The surgical procedure was completed in two hours and pet Dobby had an uneventful recovery.

Hemoclip being applied

Highlights of PPAM-SAVAVET Dermatology Summit
held on Saturday 17.06.2023.

PPAM-SAVAVET Dermatology Summit was held on Saturday 17.06.2023 at The Orchid Hotel Mumbai. The Speakers were Prof. Rosanna Marsella, from Florida USA, Dr. K. G. Umesh, Bengaluru, and Dr. B. Nagarajan from Chennai. More than 200 PPAM members attended the Dermatology Summit.

The topics were

Speakers	Topics
Prof. Rosanna Marsella	1. Itchy pets-How to calm them(and pet parents) 2. Handling recurrent infections with a focus on the judicious use of antibiotics and antifungals.
Dr. K. G. Umesh	Hypothyroidism-overused or misused diagnosis?
Dr. B. Nagarajan	Parasitic diseases in Cats.


Mr. Karthik Rajan (SAVAVET)

Dr. Makarand Chavan at Inaugural CE of PPAN.

Pet Practitioner Association of Nashik (PPAN) conducted their inaugural event on World Veterinary Day, 29th April 2023 at Kamfotel Hotel Nashik. All PPAN members attended the opening event. Key speaker was Dr. Makarand Chavan who spoke on - Challenges and Therapeutic Strategies in Canine Atopic Dermatitis. On this occasion Dr. Anil Chaoudhary (President - PPAN), Dr. Sanjay Kasar (Vice President - PPAN), Dr. Popat Kale (Secretary - PPAN), Dr. Kaushal Shinde (Treasurer - PPAN) and all office bearers felicitated seniormost Vet Practitioner in Nashik - Dr. Dhananjay Ranade Sir. Many leading vets such as Dr. Suniket Arote, Dr. Bhaskar Thakur, Dr. Girish Patil, Dr. Digvijay Patil, Dr. Seema Joshi, Dr. Rahul Patil, Dr. Sakina Malik, Dr. Chandrashekhar Pardeshi participated actively in this event. Event was supported by Savavet.

Appeal to PPAM Members to Renew Membership

1. Renewal of Annual Membership	Rs. 1500.00 + GST (Rs. 270.00) = Total Rs. 1770.00
2. New Membership	Rs. 1750.00 + GST (Rs. 315.00) = Rs. 2065.00
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Bank Details :

Indian Bank; A/c name - Pet practioners association, Branch- Santacruz (w)

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(As soon as payment transfer is made please send a message to Treasurer Dr. Anil Vade on 9820016420.
Please also mention your complete name, date of payment and transaction id)

Management of Some Ophthalmic Lesions in Pets

Dennis Brooks DVM, PhD
Diplomate, American College of Veterinary Ophthalmologists Professor Emeritus, University of Florida.

CORNEAL LACERATIONS

The management depends on the depth of laceration. All should be stained with fluorescein to help assess the depth and affected area of the laceration. Superficial lacerations are treated as "simple" ulcers (topical antibiotics and atropine). Deep, non-perforating lacerations are treated more aggressively. Topical broad spectrum antibiotics and 1% atropine are used. If the laceration is judged to be less than ½ thickness, treat as simple ulcer; if more than ½ thickness, suture cornea and place conjunctival flap.

Perforating (full thickness) lacerations are emergencies. Animals require topical antibiotic solution (not ointment), topical atropine solution, systemic antibiotics, general anesthesia and surgical repair of cornea. This entails repositioning or amputating protruding iris, reforming the anterior chamber with Lactated Ringers, and suturing the corneal with #8-0 absorbable suture material. A conjunctival flap is also placed if needed. If iris prolapse has occurred more than 26 hours earlier, and the iris appears nonviable, it should be amputated using cautery. The cornea should then be sutured as above.

Iris prolapse from corneal laceration

CORNEAL SEQUESTRUM appears to be a disease process unique to the cat. Himalayan, Persian, and to a lesser extent Siamese cats, are predisposed but the disease can be observed in any breed. Clinical signs usually consist of a superficial, slightly raised, irregular black plaque, involving one or both corneas. Frequently, the cornea is moderately inflamed and superficial vessels are present. Historically, many of the cats have had chronic ulcerative keratitis that resembled herpetic keratitis, suggesting infection with rhinotracheitis virus. KCS, entropion, and traumatic ulcers are also common causes. Therapy includes superficial keratectomy to remove the plaque, followed by a topical antibiotic and atropine. When the keratectomy extends more than one half the corneal thickness, a conjunctival flap is indicated.

Sequestrum

EOSINOPHILIC KERATOPATHY (EK) occurs infrequently in the cat. Ophthalmic examination usually reveals a localized to diffuse whitish granular appearing plaque and neovascularization involving the superficial cornea. **It looks like a tumor, but it ain't!!** The temporal and nasal limbus are most commonly affected, but the lesion can be found starting in all four quadrants. Other ocular signs include blepharospasm, epiphora or white thick mucoid discharge, and corneal erosions. In some cases the conjunctiva and nictitans can be hyperemic and edematous. Diagnosis is based on cytology of corneal scrapings or histopathologic examination of corneal biopsies. Cytological examination usually demonstrates the presence of eosinophils, mast cells, lymphocytes or plasmocytes. Eosinophil counts for peripheral blood are commonly less than 4%.

There is no direct relationship reported between this corneal disease and the eosinophilic granuloma complex of the cat. However, both conditions respond to treatment with corticosteroids and megestrol acetate. Because of the side effects of both corticosteroids and megestrol acetate when administered systemically, it is usually recommended to initially treat with topical or subconjunctival corticosteroids when the corneal epithelium is intact. If the treatment is ineffective or in case of recurrence the use of systemic medication is advised. Therapy with megestrol acetate (5 mg daily for 5 to 7 days), can be given orally and the dosage is decreased over the next 4 weeks.

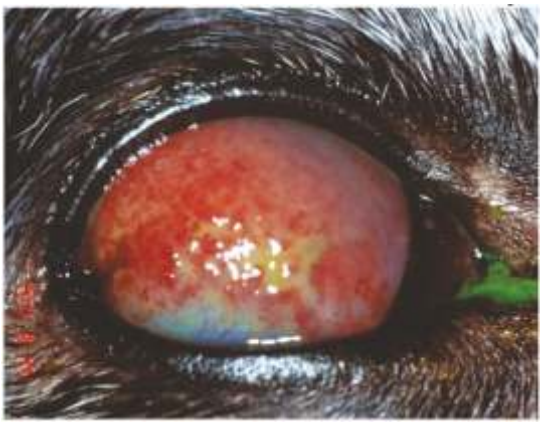
EK

HERPETIC KERATITIS in the cat may or may not be associated with upper respiratory disease. Corneal edema frequently precedes corneal ulceration. Superficial or epithelial ulceration may occur in several patterns. Ulcers may be linear with branching; they are commonly described as dendritic. They may also occur as small, numerous, punctate areas that coalesce to form larger geographic epithelial ulcers. When deep herpetic ulcers occur, descemetocele formation with perforation may result. Therapy for herpetic corneal ulcers in cats includes topical antiviral agents, atropine, and antibiotics. Trifluridine, and tetracycline or chloramphenicol are applied to the eye 4 to 9 times daily for 2 days, then 3-5 times daily for 14-21 days. Trifluridine may cause mild transient irritation of the conjunctiva and cornea. Cidofovir (0.5%) can be used topically BID. Resistance to trifluridine (trifluorothymidine) may occur; in those cases either vidarabine (adenine arabinoside) or idoxuridine is substituted. These drugs are virastatic; therefore, therapy must be administered at regular intervals for 2 to 3 weeks. Antibiotics are used to control the secondary bacterial infections. Acycloguanosine (Acyclovir), may have a low specificity for treating feline ocular herpesvirus infection. Interferon may be given orally at a dose of 30 U/ml SID for 7 days, or 3 U/ml SID for the life of the cat. Famciclovir (7.5 mg/kg BID) can also be used orally. Lysine orally (500 mg BID) can reduce herpes shedding.

PANNUS

Synonyms include Chronic Superficial Keratitis, German Shepherd Pannus, and Uberreiter's Syndrome. Breed predilection: German shepherd, German shepherd mix, Greyhound, Siberian husky. It is considered inherited and is never resolved. Therefore the owners must understand that therapy will be required the rest of the dog's life: "It is only controlled never cured". The exact etiology is unknown. Cell mediated immunity to corneal and uveal antigens have been demonstrated in affected corneas. Evidence suggests that ultraviolet radiation and viruses may be important in the pathogenesis. UV radiation or a virus alters the antigenicity of tissue in susceptible corneas resulting in cell-mediated inflammation. In the early stages, corneal epithelial cells proliferate and the superficial stroma is infiltrated by plasma cells and lymphocytes. Melanocytes and histiocytes are present; the epithelium and anterior stroma are pigmented and vascularized, and the epithelium keratinized. Will lead to eventual blindness if not treated and controlled. Pannus usually begins in the temporal corneal quadrant. It then affects the nasal, inferior and superior corneal quadrants in that order. It is PROGRESSIVE! Hyperemia, vascularization, and pigmentation occur at the temporal limbus and spreads centrally. Small white opaque infiltrates occur in the clear stroma 1-3 mm ahead of the advancing lesion. Severity of the disease varies with age of onset and geographic location. In young animals (1-2 years) the condition progresses more rapidly and the treatment must be more intensive, whereas animals affected at an older age (4 to 6 years) develop less severe lesions and the prognosis is better. Animals at higher altitudes (>4000 feet above sea level) respond less favorably to therapy. The lesions may be quite advanced before first being noticed by the owner and must affect a large area of the cornea before vision is affected. Pannus is a chronic progressive corneal disorder that can be controlled in many cases by medical and/or surgical therapy but it cannot be cured at the present time. It must be explained to the owner that long term

therapy will be necessary, at a level depending on the severity of disease in the patient and the geographic location. With the exception of geographic areas of high altitude, useful vision can usually be preserved with medical therapy.



Pannus

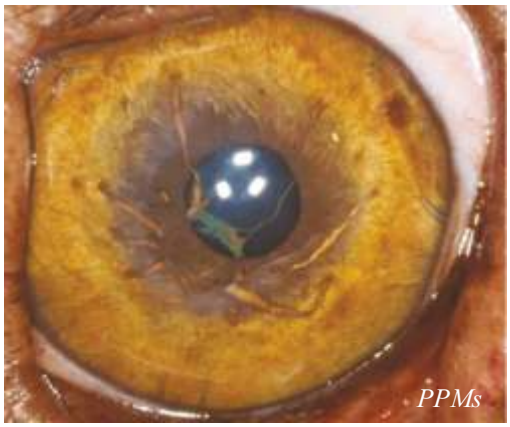
Topical corticosteroids are the drugs of choice and frequency of therapy depend upon the severity of the lesion. Dexamethasone 0.1% or prednisolone (1%) 1-6 times daily is usually first choice (to effect). As lesions regress, therapy should be reduced. Subconjunctival steroids can be given in severe cases, when lesions don't respond to topical steroid, or owner compliance is a problem. Cyclosporine A may also be useful in refractory cases.

UVEA

HETEROCHROMIA is the difference in color between the irides, or parts of one iris having different colors. Hypopigmentation is noted in Siamese and white cats, merle collies, harlequin Great Danes, Dalmatians, Siberian Huskies, Malamutes, Pinto, Appaloosa, white and some gray horses. Also seen in Hereford and Shorthorn cattle. Waardenburg's syndrome is a condition associated with white fur, blue eyes and deafness in mice, cats and dogs. Hyperpigmentation is associated with chronic inflammation or neoplasia

PERSISTENT PUPILLARY MEMBRANES (PPM'S)

In the fetus, the pupil is closed with an thin pupillary membrane (tunica vasculosa lentis) that regresses prior to birth. Sometimes regression is not complete at birth and web-like strands are still present until 4-5 weeks of age. PPM's represent retention of strands of the tunica vasculosa lentis, a vascular structure to the fetal lens. PPM's are attached to the iris collarette at one end and may have the other end floating in the anterior chamber, attached to the lens (anterior capsular cataract), attached to the iris collarette at other end, or adhered to the corneal endothelium (leukoma). PPM's are heritable in the Basenji (probably as a dominant trait with incomplete penetrance) and associated with other ocular abnormalities, most notably optic nerve colobomas.



ANTERIOR UVEAL CYSTS: Can be congenital or acquired, and present in the anterior chamber, posterior chamber or vitreous. They can be attached to the pupillary border, be free floating in the anterior chamber, or adhere to the cornea. Cysts are hollow, probably full of aqueous and **TRANSILLUMINATE**. Neoplasms do not transilluminate and appear solid. Uveal cysts can be associated with combined uveitis/glaucoma in **Golden Retrievers**. **Treatment:** None unless causing pathology. Surgical removal if causing corneal damage, obstructing the pupil or obstructing drainage angle (Goldens). Performed with laser.

ANTERIOR UVEITIS

Infectious uveitis is common to cats (FIP, FIV, FELV, herpes, toxoplasmosis, cryptococcus), can be secondary to corneal or scleral disease, and can be immune-mediated as in lens-induced uveitis (LIU). It may be caused by systemic diseases and trauma. Clinical signs include enophthalmia, prolapsed nictitans, hyperemia of conjunctiva, corneal edema, keratic precipitates (KPs), aqueous flare in anterior chamber, hyphema or hypopyon, iris is swollen. Miosis, iris color change and rubeosis iridis and synechiae with hypotony. Treatment of anterior

uveitis includes topical atropine, steroids, NSAIDs and antibiotics. Complications of uveitis include persistence, leukomas, iris bombe, endothelial degeneration, cataracts, phthisis and glaucoma.

KPs in uveitis

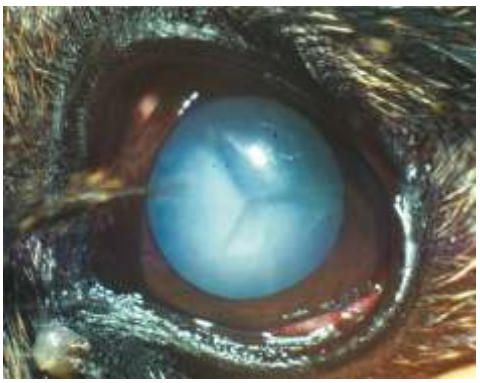
MELANOMAS are the most common primary intraocular tumor in the dog and cat. Intraocular adenocarcinomas and adenomas, lymphosarcoma, and metastatic tumors can also occur of the anterior uvea is a common tumor in the canine and feline.

Ocular **HYPHEMA** is blood in anterior chamber.
THIS INDICATES UVEITIS!!!

LENS: CATARACTS

Strictly defined, a cataract is any opacity of the lens or its capsule. It may be congenital, inherited, or caused by disease, toxicity, trauma, or age. Many purebred dogs are predisposed to developing cataracts. Cataracts and nuclear sclerosis are both associated with advancing age. Nuclear sclerosis is a normal lenticular alteration in most dogs over 6 years. Nuclear sclerosis is not a true cataract, and there is no pathologic alteration of the lens fiber pattern.

Another common cause of cataracts in dogs is diabetes mellitus. Initially, diabetic cataracts begin as equatorial cortical vacuoles but rapidly (weeks to months) progress to form complete or resorbing cataracts. Advanced cataracts produce vision loss. In comparison, focal incomplete cataracts have varying degrees of blindness.



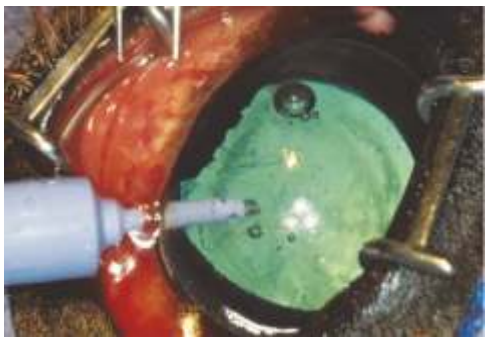
Mature cataract

If the cataracts are mature, clues such as careful assessment of the history, the pupillary light reflex and dazzle response, in addition to ocular ultrasonography and ERG, may be required to rule out concurrent retinal disease.

Terms frequently used to describe cataract severity include: immature or incomplete, mature or complete, and hypermature or resorbing cataracts. By convention, the degree of completeness of a cataract is related to the amount or percentage of tapetal reflection that it blocks. Hypermature cataracts are often associated with a deep anterior chamber, wrinkled anterior lens capsule, and signs of uveitis. An incipient cataract is synonymous with an early cataract. An intumescent cataract describes a lens that has "swollen" and enlarged due to an imbibition of fluid. The lens can actually swell enough to alter aqueous outflow dynamics and increase intraocular pressure (IOP).

PHACOEMULSIFICATION

Phacoemulsification is the extracapsular removal of a cataract using ultrasonic vibrations generated by a special piezoelectric hand piece. The lens is simultaneously shattered, the anterior chamber maintained by irrigation, and the fragments of lens removed by aspiration. The major advantage of phacoemulsification is that it is performed using a small corneal incision. The major disadvantages of phacoemulsification are cost. CATARACT SURGERY IS BEING DONE EARLIER NOW.



LENS LUXATION AND SUBLUXATION

Luxation is when the lens is totally free of zonular attachments. Subluxation is when the lens is only partially freed from its zonular attachments and remains in the patellar fossa of the vitreous face. This is common in terriers. Management of lens luxation depends on whether the animal is painful in the affected eye or not, and whether the animal has the ability to see out of this eye or not.

CANINE AND FELINE GLAUCOMAS

Aqueous humor is produced in the ciliary body by active secretion and ultrafiltration of plasma. The enzyme carbonic anhydrase participates in the energy-dependent secretory phase of aqueous production. Most of the aqueous humor flows from the posterior chamber, through the pupil, to the anterior chamber, and exits at the iridocorneal angle into the intrascleral venous plexus. A small percentage of the outflow in dogs and cats (uveoscleral or nonconventional) also exits through the iris, ciliary body, choroid, and sclera. The balance between formation and

drainage of aqueous humor maintains intraocular pressure (IOP) within a normal range of approximately 15 to 25 mm Hg.

By definition, glaucoma is increased IOP with associated visual deficits. In most cases in dogs and cats, glaucoma is caused by obstruction or stenosis of the aqueous humor outflow pathways. It remains a challenge to the veterinarian to detect the early subtle disturbances of glaucoma and to effectively treat this condition. Delayed or inadequate therapy can lead to irreversible blindness and a painful, cosmetically unacceptable eye.

All ocular tissues are eventually affected by the elevated IOP. The presence, individually or as a group, of a "red eye," corneal edema, mydriasis, blepharospasm, blindness, and buphthalmos can be explained by the increased IOP. If the IOP cannot be reduced, an overall increase in the size of the globe may result (buphthalmos). This change may occur more rapidly in young dogs and cats. Ruptures of the cornea's inner limiting (Descemet's) membrane may accompany the elevated corneal tension and buphthalmos to produce multiple, linear corneal striae. Persistent corneal endothelial damage can result in corneal edema. Buphthalmos causes increased tension on the lens zonules. Zonular disinsertion results in lens subluxation or luxation.

Pupillary light reflexes may be normal, slow, or absent in early glaucoma, depending on the functional status of the iris sphincter muscle, retina, and optic nerve. Acute elevation of IOP (greater than 45 mm Hg) causes paralysis of the iris sphincter and dilator muscles. Prolonged or recurrent elevations of IOP lead to degeneration of the retina and optic nerve, with excavation or cupping of the optic nerve head.

Glaucoma is divided into primary (including congenital) and secondary categories. The iridocorneal angle may be open, narrow, or closed in either type. Abnormal development of the iridocorneal angle (goniodysgenesis) has been noted in some breeds. Evaluation of the iridocorneal angle is performed with gonioscopy in the dog but may be performed with focal illumination in the cat.

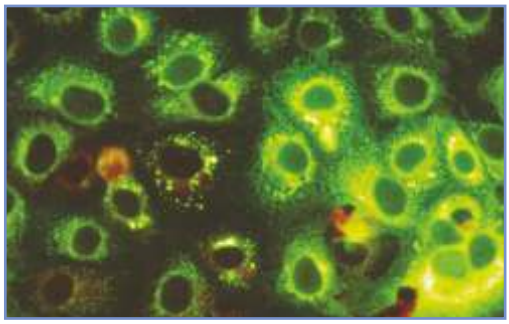
Primary glaucoma in dogs is a breed-related, hereditary condition. Predisposition to primary open-angle glaucoma in the Persian and Siamese cat breeds has also been noted, but in the author's experience, domestic short-hairs are more often affected. In both dogs and cats, affected animals may present with only one eye involved, but the risk is very high for development of glaucoma in the other eye.

Secondary glaucoma is more commonly encountered than primary glaucoma in dogs and cats. The elevated IOP results from other disease processes within the eye. The glaucoma may be open or closed angle, and in some instances is associated with pupillary block. The condition tends to be unilateral without an inherited basis.

Zoonotic Diseases in India. PPAM Editors Notes.

In India, the major public health zoonotic diseases are rabies, brucellosis, toxoplasmosis, Japanese Encephalitis (JE), cysticercosis, plague, leptospirosis, Scrub typhus, echinococcosis, Nipah, trypanosomiasis, Kyasanur forest disease (KFD), and Crimean-Congo hemorrhagic fever.

In India, the National Centre for Disease Control plays an important role to strengthen surveillance for early diagnosis and effective, timely containment. New zoonotic diseases such as cutaneous leishmaniasis, Japanese Encephalitis, and scrub typhus need to be monitored by veterinarians very closely.



Cutaneous leishmaniasis is the most common form of leishmaniasis affecting humans. It is a skin infection caused by a single-celled parasite that is transmitted by the bite of a phlebotomine sandfly. There are about thirty species of Leishmania that may cause cutaneous leishmaniasis. This disease is considered to be a zoonotic.

Dogs are the main reservoir host for human visceral leishmaniosis caused by L infantum, and the disease is potentially fatal in dogs. Because the internal organs and skin of the dog are affected, the canine disease is termed viscero-cutaneous or canine leishmaniosis. The typical clinical disease due to L infantum includes the appearance of skin lesions, ocular abnormalities, or epistaxis, accompanied by weight loss, exercise intolerance, and lethargy. The main physical findings are dermal abnormalities. Diagnostic tests for canine leishmaniosis include a CBC, biochemical profile, urinalysis, and one or more specific tests to confirm infection. Quantitative serology is best for diagnosis.

Japanese encephalitis is a viral brain infection that's spread through mosquito bites. The virus is found in pigs and birds and is passed to mosquitoes when they bite infected animals. It causes reproductive losses in pigs, encephalitis in horses, and very rarely in other species. Other animals do not usually show any signs, and pigs and horses may often show no signs at all. It is caused by the Japanese encephalitis virus which is a member of the Flavivirus genus. In infected humans, around 1% will develop clinical disease.In pigs, the most common clinical signs are mummified and stillborn or weak piglets, some with neurological signs. Boars may experience fever, infertility, and oedematous testicles. In horses, many cases are asymptomatic and most clinical disease is mild, however more severe encephalitis can occur which can be fatal. Signs include fever, jaundice, lethargy, anorexia, and neurological signs which vary with the severity of the clinical disease. Neurological signs can include incoordination, difficulty in swallowing, impaired vision, and rarely hyperexcitable form occurs.

Scrub typhus, also known as bush typhus, is a disease caused by a bacteria called Orientia tsutsugamushi. Scrub typhus is spread to people through bites of infected chiggers (larval mites). The most common symptoms of scrub typhus in humans include fever, headache, body aches, and sometimes rash. The infection is transmitted to humans and rodents by some species of infective trombiculid mites. Once they are infected in nature by feeding on the body fluid of small mammals, including rodents, they maintain the infection throughout their life stages and as adults, pass the infection on to their eggs in a process called transovarial transmission. Similarly, the infection passes from the egg to the larva or adult.

Dr. Komal Keni was a speaker at the Ozone Forum of India 12th Annual Conference held in Mumbai from 29 to 30 April 2023

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Important Note

- All registrations are non transferable & non refundable

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- **Important Note**
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- PPAM Committees will not be responsible for any loss/damage

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SCAN TO KNOW MORE

SKYEC event held on 27.05.2023

The PPAM and SKYEC event was held at ITC Grand Central in Parel, Mumbai on Sunday 28.05.2023.

Dr. Ayyappan. S. Professor and Head, of the Department of Veterinary Surgery and Radiology delivered a talk on Recent Concepts of Management of Osteoarthritis in Dogs. Around 185 participants attended the CE.

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