BULLETIN OF THE

# PET PRACTITIONERS ASSOCIATION OF MUMBAI

(FOR CIRCULATION AMONGST PPAM MEMBERS)

APRIL - JUNE 2025



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*PPAM Election and General Body Meeting was held on Sunday 22.06.2025 at the Club, Andheri West, Mumbai.*

***The real winners are 302 PPAM members who came, stood patiently in long queue and voted.***

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# Editorial

## PPAM Elections 2025. The Real Winners.

### The dedicated 302 PPAM members who came, stood in line and voted - your commitment is true victory for PPAM.

Dear Members of the Pet Practitioners Association of Mumbai (PPAM),

On 22nd June 2025, we marked a historic day in the journey of our association. Founded on 20th January 1997, the PPAM completed 28 glorious years of professional unity, and this year, for the first time we witnessed a milestone–the conduct of elections for the Managing Committee, reinforcing our commitment to democratic governance and member-led leadership.

We are immensely proud to share that 302 members travelled from near and far, stood patiently in long queues, and exercised their right to vote–not just as a formality, but as a statement of love and loyalty towards PPAM. Your presence, engagement, and dedication are a powerful reminder of the strength and unity of our professional community.

On behalf of the newly elected Managing Committee and as editor PPAM Bulletin I extend my heartfelt thanks to each and every member who took part in this democratic process. Whether you stood as a candidate, voted, or encouraged others to participate–your contribution has been invaluable. This shared spirit of collaboration and commitment is the true force driving PPAM forward.

A special note of gratitude to Dr. (Prof.) C. C. Wakankar, Dr. Kishore Batwe, and Dr. Ami Bhatia for their tremendous effort and dedication in conducting the elections with precision. Your commitment ensured a smooth and inclusive process for all. Thanks also to Dr. Vaibhav Pawar, Dr. Sunita Patel and many others who voluntarily took up the responsibility to ensure smooth elections.

We also want to sincerely thank all PPAM members for your patience and understanding throughout the election process. In today's fast-paced world, patience is a rare virtue–and each of you exhibited a calm and cooperative attitude that made a real difference. Your trust and steady presence underscore the values of unity and mutual respect.

Elections are not merely administrative tasks–they are the foundation of a healthy, progressive professional association. They empower members, promote accountability, and keep the organization dynamic, transparent, and ethically strong.

This election has ensured that leadership is chosen by the members, not appointed arbitrarily. It has given every member a voice in shaping the future of our association. With elected leadership comes greater responsibility, and the Managing Committee now stands answerable to you–the members who placed your trust in us.

These elections will continue to encourage member engagement, as shown by the remarkable turnout. When members feel their vote and voice matter, they remain invested in the growth and direction of the association.

We are optimistic that this newly elected team will bring fresh ideas, ethical leadership, and renewed energy, while safeguarding the traditions and values that have built PPAM into what it is today.

Finally, we recognize that leaders elected by peers are more likely to act with integrity, objectivity, and service orientation. This election reaffirms our commitment to uphold professional ethics and standards. Election-based leadership also increases credibility and legitimacy, both within and beyond our community.

As we move forward, the Managing Committee looks forward to working with all of you to promote the values of professionalism, inclusivity, and excellence.

Thank you once again for your enthusiastic participation, patience, and unwavering support.

Warm regards,

Dr. Shriniwas V. Vishwasrao
Editor, PPAM Bulletin

# Pet Practitioners Association of Mumbai
# New Managing Committee (2025-2028)

| Sr. No | Post | Name of the Candidate |
|---|---|---|
| 1. | Hon President | **Dr. Vade Anil** |
| 2. | Hon Secretary | **Dr. Chavan Makarand** |
| 3. | Hon Joint Secretary | **Dr. Vengsarkar Shah S.** |
| 4. | Hon Treasurer | **Dr. Swali Hitesh** |
| 5. | Hon Joint Treasurer | **Dr. Ukale Prabhakar** |
| 6. | PPAM Bulletin Editor | **Dr. Vishwasrao S. V.** |
| 7. | Representative to FASAVA | **Dr. Khandekar G. S.** |
| 8. | Ordinary MC Members MMRDA region | **Dr. Chousalkar Makarand** |
| | | **Dr. Gatne Mukulesh** |
| | | **Dr. Jayakar Nihar** |
| | | **Dr. Tamhankar Smita** |
| 9. | Ordinary MC Members Non MMRDA region | **Dr. Deore Milind** |
| | | **Dr. Mhatre Milind** |

# A Heartfelt Gratitude to PPAM's Former Leaders and Guiding Stars

On behalf of every member of PPAM, we extend our deepest gratitude to our beloved Dr. Dhananjay Bapat Sir for his extraordinary tenure as our President. His visionary leadership, unwavering dedication, and boundless passion have left an indelible mark on PPAM's legacy. Under his guidance, we achieved milestones that will be remembered as historic and iconic in the records of our association. His wisdom, balanced approach, and profound influence in the pet industry brought us unparalleled support and expertise, elevating every event to greatness.

To Dr. Sunita Patel Mam we express our profound appreciation for her invaluable leadership as the head of the Scientific Committee. Her relentless efforts, insightful guidance, and unwavering support have been the backbone of our success. We are forever grateful for her commitment and the warmth with which she nurtured our growth.

We also extend our sincerest thanks to our former Managing Committee and our Ex coopted members.

Dr. Milind Hatekar
Dr. Amrita Deb Manchanda
Dr. Shantaram Gadge
Dr. Pradnya Pethe
Dr. Suhas Rane
Dr. Nishit Gokarn
Dr. Vaibhav Pawar
Dr. Shashank Kamble
Dr. Jairam Ramani
Dr. Percy Avari
Dr. Dinesh Lokahnde
Dr. Gloraine Carvalho
Dr. Archana Bapat
Dr. Parag Pawar

These former MC members and Ex coopted members tireless contributions, selfless service, and dedication have shaped PPAM into what it is today. Their relentless volunteer spirit, countless hours of hard work, and heartfelt participation in every PPAM event have been nothing short of inspirational. They were the silent warriors behind our success, and their efforts will forever be cherished. As we stand at this juncture of transition, we look back with pride, gratitude, and a touch of nostalgia. The bonds we've built, the memories we've created, and the legacy we've upheld together will forever remain etched in our hearts. Thank you, dear mentors and friends, for being our pillars of strength. PPAM will always be a family because of you.

With deepest respect and affection,

The PPAM Family

Regards
Dr. Makarand Chavan
Hon. Secretary, PPAM

# Letter to the PPAM Bulletin Editor and Readers

**Dr. Kishor Mahind**

Dear Editor,

As a vet who's spent 17 years in the UK, I've watched the pet-care world transform dramatically, and I believe India's veterinary industry is on the cusp of a similar shift. With 36 million pets across 60% of UK households–roughly 17 million homes–the "pet-parent" culture has reshaped how we work, and I see parallels emerging in India.

When I started here, most vet practices were small, independent clinics where everyone knew your dog's name. Now, corporate groups own about 60% of the market. This has brought 24-hour hospitals and cutting-edge tools like CT scanners, but it's also driven up costs and made some clinics feel less personal. Meanwhile, pet owners have become more demanding. They want same-day appointments, apps for triage, and clear billing. Vets who've embraced telehealth or wellness plans are thriving; those who haven't are struggling to keep up.

Pet insurance has been a game-changer, too. One in four dogs and one in eight cats are now insured, unlocking advanced treatments and raising clinical standards through stricter insurer protocols. Technologies also raced ahead–small practices now offer in-house diagnostics and endoscopy, which is exciting but demands constant learning and investment. The Covid pet boom added another layer, with higher caseloads and staff shortages pushing us to rethink rotas, lean on nurses, and recruit globally.

India's heading down a similar path. Urban pet owners are treating pets like family, corporate interest is growing, and clients are starting to expect more tech and service. Having seen this evolution firsthand, I'm convinced it's inevitable. Indian vets who adapt–upskilling, embracing tech, and collaborating–will lead the way. Those who resist risk falling behind.

I urge your readers–vets, practice owners, and pet enthusiasts–to see this as an opportunity, not a threat. Let's share ideas, learn from markets like the UK, and shape the future of Indian veterinary care together. I'd love to hear from others in the field about how we can prepare for this exciting shift.

Sincerely,

Kishor Mahind

BVSc & AH, MVSc, MRCVS

# Management of Bile Peritonitis in a Domestic Shorthair Cat

**Dr. Amrita Deb, Dr. Neha Mumbarkar, Dr. Barry Kalsy & Dr. Pushkar Banka**

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## Introduction

This case report describes the medical and surgical management of a case of bile peritonitis, arising from a common bile duct perforation in a two and a half-year old, male, intact, outdoor, domestic shorthair (DSH) cat, that had presented for a second opinion for abdominal distension accompanied by icterus.

## Case Report

The patient was a rescued cat being treated at a shelter, and, on presentation, weighed 3.9kg, with a rectal temperature of 99.7F, and heart and respiratory rates of 130 and 56 per minute, respectively. Bloodwork was significantly abnormal with elevated WBC (49.9 K/uL), ALT (533 U/L), TBIL (8. 6 mg/dl) and Amylase levels (1837 U/L). Radiographs showed poor abdominal serosal detail and a mild ground glass appearance, suggesting peritoneal effusion. Ultrasound examination findings included acute pancreatitis, peripancreatic fat necrosis, a small amount of free fluid in the cranial abdomen, enlarged abdominal lymph nodes, a thickened gall bladder wall and rounded liver margins. The in-house Rivalta test was weakly positive, indicating an exudate. The patient was positive for Feline Immunodeficiency Virus (FIV), Feline Coronavirus (FCoV) and *Toxoplasma gondii* on polymerase chain reaction

(PCR) testing of blood and peritoneal effusion. Empirical treatment was instituted with clindamycin (5.5 mg/kg oral q12H), doxycycline (5 mg/kg q12H oral), pantoprazole (0.7 mg/kg SC q24H), ondansetron (0.2 mg/kg SC q12H) along with supportive medications for hepatic function such as ursodeoxycholic acid (10 mg/kg q12H oral) and S – adenosylmethionine, and N – acetylcysteine. The patient appeared to get progressively icteric with an obvious abdominal fluid thrill. Ceftriaxone-Tazobactum (15 mg/kg q12H) for 14 days and Furosemide (1 mg/kg q24h) were added to the treatment plan, instead of doxycycline. Therapeutic abdominocentesis was performed and 60 ml of fluid was aspirated. The fluid bilirubin level was 6.9 g/dl, while the serum bilirubin was 1.2 g/dl, which confirmed a bile peritonitis. Enrofloxacin (4mg/kg q24H SC/oral),along with clindamycin and Maropitant citrate (1mg/kg q24H SC) was administered for persistently elevated WBC and nausea. Computed tomography (CT) for further diagnosis was refused by the client due to financial constraints.

Exploratory laparotomy was performed under general anaesthesia, with a routine midline approach to the abdomen, where a perforation of the common bile duct was identified with bile leakage in the surrounding omentum and generalized inflammation of the peritoneal lining. The perforated common bile duct was resected and a cholecystoduodenostomy was performed. The gall bladder stoma was sutured to the duodenal wall. The necrotic omental tissue was debrided, the abdominal cavity was lavaged with 1L of warm saline, and an abdominal drain was placed adjacent to the surgical incision prior to routine closure. In addition, due to significant intra-operative blood loss, a xeno-transfusion of 40 ml of whole blood from a canine donor in the clinic, with prior consent of the owner, was administered to counter severe hypovolaemia and hypotension. The patient was able to ambulate and ate spontaneously post-surgery. No further deterioration of the symptoms was noted and a quantitative decrease in abdominal fluid was seen on ultrasound examination. The drain was removed 5 days post-surgery and a bacterial culture of the fluid showed a growth of methicillin – resistant *Staphylococcus pseudointermedius*. There was a drastic increase in WBC TO 83.18 K/ul. However, Serum bilirubin was now 0.8mg/dl and the abdominal fluid Tbil was 0.3mg/dl.

Eight days post-surgery, the hematobiochemical parameters had improved; PCV (22.3%), HGB (7.2 g/dL), WBC (9.38 K/uL), and ALT(96 U/L) and clinically the patient was back to normal, except for the anaemia.

*Fig 1 : Bile staining and necrosis of omentum adjacent to the gall bladder*

*Fig 2 : Cholecystoduodenostomy of the gallbladder to the duodenum*

## Discussion

Bile peritonitis occurs infrequently in cats. A diagnosis of bile peritonitis is made if the ratio of effusion to serum total bilirubin is greater than 1 (Murgia, D., 2013). In this patient, it was 5.8. Although, most often of a traumatic etiology with avulsion of common bile duct, other causes of biliary peritoneal effusion include choleliths, inflammation of the gall bladder, and pancreas, and neoplasia (Low and Williams, 2023). The source of biliary effusion in this case, based on findings of exploratory laparotomy, were perforation of the common bile duct with bile staining of the surrounding omentum and generalized necrosis of the peritoneal lining. Surgical treatment options for rupture of the biliary tract include primary repair, biliary diversion (including choledochal stenting), and cholecystectomy. Prognosis following surgical management carries a fair to guarded prognosis. Cats with bile peritonitis have excellent short-term outcomes following surgical treatment, according to some studies (McAlexander et al., 2014). In this case, the initial response to medical management, along with financial constraints delayed diagnosis resulting in the severe inflammation and necrosis of the peritoneal lining noted at surgery.

## Conclusion

This case describes the medical and surgical management of a case of biliary peritonitis in a domestic shorthair cat with perforation of the bile duct identified on exploratory laparotomy and surgically managed by cholecystoduodenostomy. Although the initial post-operative recovery appeared to be encouraging, the inadvertent ingestion of foreign material (cat litter), 8 days post-surgery, compromised recovery despite attempted endoscopic retrieval and flushing, and negatively impacted the ultimate outcome for this patient.

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# Approach to Respiratory Emergencies in Veterinary Patients


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## Introduction:

Respiratory distress is one of the most critical presentations in veterinary emergency practice, with causes ranging from trauma and infections to cardiac and metabolic diseases. Early recognition, stress minimization, and immediate oxygen supplementation are key to reducing mortality. Delay in stabilization or inappropriate diagnostic intervention can rapidly precipitate respiratory collapse. A careful, minimally invasive evaluation followed by appropriate therapy based on localization–upper airway, lower airway, lung parenchyma, pleural space, or neuromuscular system–is essential for effective management. This article provides a structured approach to the diagnosis and management of respiratory emergencies in dogs and cats, integrating modern oxygen supplementation techniques such as high-flow nasal oxygen (HFNO), and outlining indications, parameters, and complications of mechanical ventilation. Case-based illustrations demonstrate practical application and clinical decision-making in emergency and critical care (ECC) settings.

## Triage and Initial Assessment:

- Triage must be performed within seconds of presentation. The "look, listen, feel" approach involves:
- Visual Observation: Note the posture (orthopnea), presence of abdominal effort, open-mouth breathing (especially in cats), and cyanosis.
- Auscultation: Determine the presence of stridor, stertor, crackles, wheezes, or absent lung sounds (as seen in pneumothorax or pleural effusion).

## Respiratory Pattern Classification:

- Upper airway disease – prolonged inspiratory effort, stridor
- Lower airway disease – expiratory effort, wheezing
- Parenchymal disease – increased effort both phases, harsh/crackles
- Pleural space disease – shallow rapid breathing, muffled sounds
- Neuromuscular weakness – paradoxical movement, minimal effort
- Mucous Membrane Assessment and CRT
- Point-of-Care Ultrasound (POCUS): Can rapidly identify pleural effusions, pneumothorax, B-line patterns suggestive of pulmonary edema, or consolidation.
- Pulse Oximetry: Useful for assessing oxygen saturation; values <90% indicate severe hypoxemia.

## Oxygen Therapy Modalities:

### Flow by:

Flow-by oxygen provides a simple, non-invasive method of oxygen supplementation by directing a

continuous stream of oxygen near the patient's nostrils. It offers low to moderate $FiO_2$ (typically 30–40%), depending on proximity and flow rate. While it is quick to administer and well-tolerated for short periods. Flow-by is best suited for emergency stabilization, brief procedures, or initial oxygen support while preparing for more effective oxygen delivery methods.

### Flow by : Case Illustration

Case: Bella, a 9-year-old spayed female Domestic Shorthair cat

Presentation: Sudden onset open-mouth breathing and tachypnea following a stressful car ride.

Findings: $SpO_2$ 88% on room air, respiratory rate 80 breaths/min, mild expiratory wheeze on auscultation. Thoracic radiographs showed a diffuse bronchial pattern suggestive of feline asthma.

Management: Flow-by oxygen therapy was initiated at 2 L/min during examination. $SpO_2$ improved to 94% within 5 minutes. Flow-by was used intermittently as needed during the first hour.

Clinical Insight: Flow-by oxygen is an ideal first-line intervention in stressed or dyspneic cats, especially when rapid, non-invasive oxygen support is needed before or during pharmacologic intervention. Its ease of use and tolerability make it especially useful in emergency feline cases.

### Oxygen cage :

An oxygen cage provides a controlled environment for the delivery of moderate to high $FiO_2$ (typically 40–60%) in a manner that is non-invasive, quiet, and stress-reducing, especially suitable for cats and small dogs. The enclosed space allows for humidified oxygen delivery with minimal handling, making it ideal for patients who are fractious, easily stressed, or require continuous oxygen support. It is particularly useful in cases of mild to moderate hypoxemia due to conditions such as cardiogenic pulmonary edema, pneumonia, or upper airway obstruction. However, $CO_2$ accumulation and heat buildup can occur, necessitating careful monitoring.

### Oxygen cage : Case Illustration

Case: Milo, a 5-year-old neutered male Persian cat

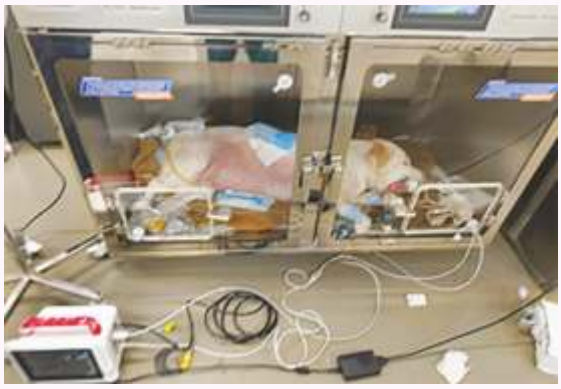
Presentation: Progressive tachypnea and open-mouth breathing following a recent diagnosis of hypertrophic cardiomyopathy (HCM).

Findings: $SpO_2$ 85% on room air, respiratory rate 72 breaths/min, muffled heart sounds, and crackles heard on auscultation. Thoracic radiographs revealed pulmonary edema consistent with cardiogenic pulmonary edema.

Management: Milo was gently placed in an oxygen cage delivering humidified oxygen at 50% $FiO_2$. Stress was minimized by limiting handling. Furosemide was administered IV, and sedation was avoided to prevent worsening cardiac output. Within 30 minutes, $SpO_2$ improved to 94%, and respiratory effort began to normalize.

Clinical Insight: The oxygen cage is a valuable tool for cats with cardiogenic pulmonary edema, providing a calm, low-stress method of oxygen delivery while minimizing physical intervention. It is especially effective in patients where agitation could worsen cardiac or respiratory compromise.

| Method | $FiO_2$ (%) | Advantages | Disadvantages |
|---|---|---|---|
| **Flow-by** | 30–40 | Non-invasive, quick | Inefficient for prolonged use |
| **Oxygen cage** | 40–60 | Comfortable, humidified | Expensive, $CO_2$ build-up |
| **Nasal cannula** | 40–60 | Moderate $FiO_2$, better tolerated in dogs | Risk of sneezing, mucosal drying |
| **High-flow nasal oxygen (HFNO)** | Up to 100 | Heated, humidified, reduces work of breathing | Requires interface tolerance, training |



## High Flow Nasal oxygen :

HFNO allows precise delivery of high $FiO_2$ at flows matching or exceeding inspiratory demand, reduces dead space, and provides a small degree of positive airway pressure. It's ideal in patients with interstitial, alveolar, or inflammatory lung disease where intubation may otherwise be necessary.

### High-Flow Nasal Oxygen: Case Illustration

Case : Luna, a 6-year-old female Labrador Retriever

Presentation: Severe dyspnea and crackles on auscultation after vomiting episodes. Findings: $SpO_2$ 82% on flow-by $O_2$, increased lung B-lines on POCUS, alveolar pattern on thoracic radiographs–suggestive of aspiration pneumonia.

Management: Transitioned to HFNO (1.5 L/kg/min, 100% $FiO_2$). Improvement in $SpO_2$ to 95% in 15 minutes. Antibiotics, fluid therapy, and nursing care continued. No intubation required. Discharged after 4 days with improving radiographs.

Clinical Insight: HFNO can be a valuable bridge therapy in patients with severe hypoxemia without immediate need for intubation. Close monitoring is crucial for tolerance and efficacy.

## Mechanical Ventilation:

Mechanical ventilation is considered necessary in critically ill patients when there is evidence of significant respiratory compromise. The following clinical conditions typically indicate the need for ventilatory support:

- Severe hypoxemia, defined as a $PaO_2 < 60$ mmHg despite an $FiO_2 > 60\%$, indicating failure of oxygenation.
- Respiratory acidosis, where $PaCO_2$ exceeds 60 mmHg accompanied by a pH < 7.25, reflecting inadequate ventilation and $CO_2$ clearance.
- Respiratory fatigue or apnea, which suggests that the patient is unable to sustain effective spontaneous breathing.
- Severe Acute Respiratory Distress Syndrome (ARDS) or refractory pulmonary edema, both of which severely impair gas exchange.
- Neuromuscular paralysis, such as that caused by tick paralysis or botulism, which compromises the ability of respiratory muscles to function.

## Mechanical Ventilation: Modes and Monitoring:

- Ventilation should be tailored to species, pathology, and response. Key settings include:
- Tidal Volume (Vt): 8–10 mL/kg for dogs; 6–8 mL/kg for cats
- PEEP: 3–5 cm $H_2O$ to prevent alveolar collapse
- $FiO_2$: Start at 100%, titrate to maintain $SpO_2 > 94\%$
- RR: 10–20 bpm depending on species and $CO_2$ levels
- I:E Ratio: 1:2 for most patients

## Common Modes:

- Assist-Control (AC): Full support for each breath–ideal in early stages
- SIMV: Allows patient-initiated breaths between mandatory ones–used for weaning
- PCV (Pressure-Controlled Ventilation): Safer for stiff lungs; limits barotrauma
- PSV (Pressure Support Ventilation): Augments spontaneous breathing, useful during recovery

## Monitoring:

$SpO_2$ and Capnography ($EtCO_2$)

Arterial blood gas analysis

Airway pressures, lung compliance

Cardiovascular parameters (MAP, HR)

Complications: Barotrauma (e.g., pneumothorax), ventilator-induced lung injury, hypotension from decreased venous return, and ventilator-associated pneumonia (VAP).

### Mechanical Ventilation Case illustration:

Case : Shadow, a 3-year-old Beagle

Presentation: History of sepsis with rapidly worsening respiratory effort. Diagnostics: $PaO_2$ 54 mmHg, $PaCO_2$ 68 mmHg, pH 7.22. Radiographs showed diffuse alveolar infiltrates (ARDS). Management: Initiated volume-controlled ventilation (Vt 8 mL/kg, PEEP 5 cm $H_2O$, $FiO_2$ 100%). Once oxygenation improved, transitioned to SIMV, then PSV by day 3. Extubated on day 4 with supportive therapy.

**Takeaway**: Phased ventilator weaning, guided by ABG and lung compliance, minimizes complications and improves outcomes.

### Conclusion:

Respiratory emergencies in small animals demand swift, systematic assessment and judicious use of oxygen and ventilatory support. With advancements in oxygen delivery, HFNO serves as an excellent intermediary before considering intubation. For patients failing all non-invasive modalities, mechanical ventilation remains lifesaving. Familiarity with ventilator settings, complications, and weaning strategies is crucial for safe patient care in ECC.

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# Lifesaving Drops : The Science Behind Canine Blood Transfusion


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Dr. R. V. Gaikwad

Blood transfusion has been employed for centuries to save the lives of both humans and animals. Recent breakthroughs in veterinary medicine have significantly improved blood transfusion techniques. Despite the improved information and accessibility of blood and its products, transfusion therapy has gotten more intricate. The implementation of advanced screening facilities, blood group testing, and procedures for cross-matching blood has significantly increased the complexity of the donor selection process. The development of blood component separation techniques has allowed clinicians to utilize specific components of blood based on the patient's needs.

### Blood crossmatching

Agglutinating and/or hemolytic reactions between the donor and recipient are assessed using major and

*Phlebotomy site for blood Collection in Dog*

*One unit Blood Bag*

*Cardiac Monitoring during blood Transfusion*

*Feline Blood Transfusion*

minor cross-matching tests. Agglutinating tests are enough for dogs and cats, but in horses, both agglutinating and hemolytic tests are necessary due to the presence of both agglutinating and hemolytic antibodies. The major crossmatch determines the presence (positive results) or absence (negative results) of measurable amounts of antibodies, whether naturally occurring or produced, in the recipient against donor erythrocyte antigens. It is essential to do a significant crossmatch in animals with potent naturally occurring antibodies, such as cats, or in those that may have developed antibodies due to previous transfusions. This remains accurate even if the identical donor blood is intended for multiple transfusions over an extended period. The minor crossmatch process is similar to the major crossmatch, but it specifically tests for the presence or absence of detectable antibodies in the plasma of the donor against the red blood cells of the receiver. The minor cross-matching procedure is not very important because the amount of donated plasma is significantly smaller than the recipient's volume and is diluted in the recipient's body, especially when only red blood cells are transfused.31 Transfusion of packed erythrocytes in dogs and horses may lead to unpleasant reactions due to the presence of antibodies against the recipient's erythrocytes. For crossmatch testing, it is preferable to utilize an ethylenediamine-tetraacetic acid (EDTA) tube and a clot tube obtained from the recipient. Using EDTA plasma instead of serum should be avoided as it leads to heightened rouleaux development and makes the interpretation of agglutination more challenging, especially in horses. Samples should be devoid of auto-agglutination, hemolysis, and lipemia to facilitate the interpretation of the results. If autoagglutination is detected or if suitable units are not available, it may be necessary to transfuse the least compatible unit, however, this carries a substantial risk. Transfusing even a small amount of blood that does not match is a dangerous technique and is never advised.

## Crossmatching method

Obtain blood samples from both the donor and recipient using purple top and red top tubes, namely an EDTA tube and non-EDTA tubes, respectively. Utilize a centrifuge to separate the plasma and serum from the red blood cells. Extract the serum and transfer it to a distinct sterile tube. Dispose of the plasma contained in the EDTA tube. Perform a thorough cleansing of the red blood cells obtained from the EDTA tube. Transfer the red blood cells into a separate tube containing a solution of normal saline and subject them to centrifugation for 1 minute. Perform the procedure five times, discarding the liquid portion each time. To create a solution with a concentration between 2% and 4%, resuspend the cells. For example, combining 0.2mL of blood with 4.8mL of saline will yield a 4% solution. Assign the tubes with appropriate labels for the creation of the following mixtures: Major crossmatch (combining 2 drops of patient serum with 1 drop of donor RBC suspension), Minor crossmatch (combining 1 drop of patient RBC suspension with 2 drops of donor serum), and Control (combining 1 drop of patient RBC suspension with 1 drop of patient serum). Subject the mixtures to incubation at a temperature of 37°C for a duration of 15 to 30 minutes, followed by centrifugation for 15 seconds. If there is visible macroscopic evidence of either hemolysis or hemagglutination or if microscopic evidence of agglutination is observed, it indicates that the donor is not a suitable match.

## Basic principles and criteria for Blood Transfusion:

To prevent transfusion responses, it is essential to do blood grouping and cross-matching between the donor and receiver before carrying out a blood transfusion. Aside from the possible negative response from a blood transfusion with incompatible blood types, the reduced lifespan of the transfused cells can lead to ineffectual treatment. It is important to thoroughly examine the species for compatibility

and perform cross-matching to prevent initial sensitization and reduce the likelihood of future progeny suffering haemolytic illness. Historically, it was advised to perform cross-matching in dogs that had previously had a pregnancy. Nevertheless, a recent study has indicated that pregnancy does not appear to make dogs more responsive to antigens found in red blood cells. Blood typing for canine DEA 1.1 and feline kinds A and B are commonly performed in veterinary medicine. Research and reference laboratories are capable of conducting other groupings and cross-matching procedures. Due to the high level of danger involved, blood transfusions should only be carried out when necessary. Clients should provide their transfusion therapy history, which requires cross matching. In veterinary medicine, both whole blood and its components are transfused based on their availability and the specific indications for transfusion. Blood transfusion is mostly used to treat severe anaemia resulting from conditions such as bleeding, destruction of red blood cells, inadequate production of red blood cells, immune-mediated destruction of red blood cells, chronic inflammatory or infectious diseases, or cancer. Animals should undergo individual clinical evaluations. An established guideline for the management of anaemia is to administer a blood transfusion when the packed cell volume (PCV) falls below 10% to 15%. Animals experiencing sudden-onset anaemia typically need a blood transfusion before their packed cell volume (PCV) drops to 15%. This is in contrast to animals with long-term anaemia. In situations of thrombocytopenia, platelet transfusion is often recommended when platelet counts reach 10,000/µL. Other indications for transfusion include low blood volume, deficiency of clotting factors either as a main or secondary condition, and low levels of proteins in the blood. It is essential to label collected blood with comprehensive facts, and maintaining accurate records is vital for all instances of blood collection and administration.

## Donor selection

Performing blood typing is necessary to identify suitable candidates for long-term blood donation. Only healthy young adults who have never received a blood transfusion should donate. Furthermore, donors are required to have completed regular physical, hematological, and clinical chemistry testing. To minimize the danger of disease transmission by blood, it is important to acquire a comprehensive health history of the anticipated donor by conducting a meticulous interview with the owner. In veterinary medicine, the primary limiting factor for testing individual units is typically the expense. Hence, a meticulous interview and blood screening of the donor are employed to mitigate the potential for infectious disease transmission. The donor must have received appropriate vaccinations and must have tested negative for blood parasites and other contagious disorders.

## Transfusion procedure

Strict aseptic conditions must be upheld and meticulous aseptic protocols must be adhered to during the collection of blood for transfusion. ACVIM recommends that a distinct portion of each given blood unit be preserved for subsequent testing in cases where disease transmission is suspected after transfusion. It is recommended to use nonlatex filters with pore sizes of 150-170µm to filter blood before or during its delivery. Prior to administration, it is necessary to warm the blood to a temperature of 37°C in order to prevent the occurrence of hypothermia. The temperature should not exceed 37°C, as higher temperatures result in the breakdown of red blood cells and the deactivation of clotting components. Blood is delivered intravenously using commercially accessible intravenous sets equipped with filters. When there is a need for both crystalloid fluid therapy and reconstitution of blood components like packed erythrocytes, it is recommended to use a fluid that contains 0.9% saline. Lactated Ringer's solution induces calcium chelation when used with anticoagulants containing citrate, leading to the production of blood clots. 5% dextrose in water causes the swelling and breakdown of red blood cells, whereas hypotonic saline fluids also promote the breakdown of red blood cells. Therefore, these fluids should not be used.

Circulatory overload and heart failure can occur due to the excessive and fast infusion of blood or plasma. In general, blood should be administered intravenously at a maximum rate of 10 millilitres per kilogramme per hour. It is important to start the transfusion cautiously and then gradually raise the flow rate. However, the infusion rate should be determined on an individual basis for each patient. As an illustration, individuals with hypovolemia may necessitate an infusion rate of 20 millilitres per kilogramme per hour, whereas individuals with cardiac, renal, or hepatic conditions or immobile calves may only require an infusion rate of 1 millilitre per kilogramme per hour. Rapid transfusion of blood may lead to symptoms such as excessive salivation, vomiting, and muscle fasciculations. To prevent contamination, it is necessary to transfuse warm blood within a maximum of 4 hours. The amount of blood to be transfused is calculated based on the recipient's body weight, estimated blood volume, PCV (packed cell volume) of both the recipient and the donor, and the intended purpose of the therapy. A general rule for small animals is that administering 10-15mL/kg of packed erythrocytes or 20mL/kg of whole blood will

raise the packed cell volume (PCV) by 10% if the donor has a PCV of around 40%.13.55 A study conducted on horses found that administering 15mL/kg of whole blood plus 8-10mL/kg of packed erythrocytes resulted in a 4% increase in packed cell volume (PCV) when the initial PCV of the donor was between 35-40%.

Preparatory measures prior to transfusion: Transfusion of fresh whole blood is recommended for treating acute haemorrhage, anaemia, coagulation problems, and thrombocytopenia. Whole blood that has been stored is suitable for transfusion in cases of anemia, although it does not include platelets or coagulation factors. Administering concentrated red blood cells is advised for animals with anaemia, especially those with a heightened susceptibility to excessive fluid accumulation. Fresh-frozen or stored-frozen plasma is utilized to treat individuals with congenital or acquired deficits of coagulation factors and hypoproteinaemia. Fresh-frozen plasma is recommended for treating hypogammaglobulinemia, which is a condition of inadequate transfer of antibodies, in calves, foals, puppies, and kittens. Platelet-rich plasma is recommended for the treatment of severe thrombocytopenia or thrombocytopenia. Hyperimmune equine plasma, or equine plasma with a high concentration of anti-endotoxin antibodies, has been administered to severely ill foals in the process of recovering from septicaemia. Hyperimmune serum products can be utilized in cattle afflicted with infectious diseases.57 Various blood substitutes have been utilised to treat anaemia in a range of animal species, such as dogs, cats, horses, birds, and ferrets. Some benefits of blood replacements include the absence of the need for blood typing and cross-matching, reduced danger of transmitting infectious diseases, and an extended shelf life. Nevertheless, the product carries a high price tag and must be disposed of if not utilised within a 24-hour timeframe. The half-life of the substance ranges from 18 to 40 hours, depending on the initial dose given. It is important to recognise the possibility of misuse of artificial oxygen-carriers in athletic dogs and horses.59 Finally, these products can disrupt patient monitoring through the use of colorimetric laboratory testing. Monitoring the impact of blood replacements on recipients should be done by assessing haemoglobin concentration, rather than PCV.

## Adverse responses and subsequent consequences of blood transfusions:

Transfusion responses have the potential to occur either immediately or after a certain period of time. Acute intravascular hemolysis resulting in hemoglobinemia and hemoglobinuria can occur due to incompatible transfusions. The release of thromboplastic substances can result in diffuse intravascular coagulopathy. Mismatched transfusion can result in the release of vasoactive amines, which can lead to hypotension, shock, severe renal failure, and death. Delayed hemolysis is characterized by a reduction in packed cell volume (PCV) occurring within a time frame of 2 to 14 days following a blood transfusion. This condition is most frequently observed in animals that have undergone previous blood transfusions and have an antibody titer that is too low to be detected using cross-matching. Extravascular hemolysis typically leads to increased levels of bilirubin in the blood (hyperbilirubinemia) and the presence of bilirubin in the urine (bilirubinuria). The initial transfusion is typically safe for recipients who have not received a transfusion before, regardless of the blood group of the donor. This is because there are no alloantibodies against the common canine erythrocyte antigens 1.1 and 1.2, and sensitization does not happen during pregnancy in dogs. Administering an incompatible initial transfusion can sensitize the recipient to immunogenic antigens, such as 1.1, 1.2, 7, and others. This can lead to a reduced lifespan of the transfused cells during the first transfusion and increase the likelihood of experiencing a severe transfusion reaction in the future. DEA 1.1, the most potent antigen in dogs, triggers the most intense transfusion response.

A hemolytic reaction may occur when a second transfusion is given within four days after the first transfusion, in cases where there is a mismatch in the J-antigen. Neonatal isoerythrolysis refers to the destruction of red blood cells in newborns caused by antibodies from the mother that are received by colostrum.

Transfusion reactions typically manifest within 24-36 hours after birth in foals, presenting as conditions such as anaemia, liver failure, and kernicterus (bilirubin encephalopathy), which are the main factors leading to foal mortality. Additional complications, apart from erythrocyte antigen-antibody interactions, encompass fever, allergic reactions, circulatory overload, citrate toxicosis, ammonia toxicosis, and infection. Pyrexia is a prevalent clinical symptom of blood transfusion response. It might happen as a result of leukocyte or platelet antigens or due to sepsis caused by bacterial contamination of the blood. Allergic responses following transfusions in dogs, cattle, and horses are typically caused by a sensitivity to plasma proteins or leukocyte and platelet antigens. Circulatory overload may occur as a consequence when whole blood is administered to patients with reduced cardiac function.

# WSAVA–FSAPAI National Symposium Report

**Dr. Makarand Chavan**

## WSAVA–FSAPAI National Symposium 2024 Report

Event : 21st WSAVA Continuing Education (CE) & 14th FSAPAI CE (National Symposium)

Dates : 15th–17th November 2024

Venue : Ideal Beach Resort, Mahabalipuram, Chennai, Tamil Nadu

Host : SAPAC–Tamil Nadu

Attendance : 841 delegates from across India and overseas

### Highlights of the Symposium

The three-day national symposium brought together global and Indian experts to share cutting-edge developments in companion animal veterinary practice. It was a landmark academic event with record participation and exceptional scientific content.

### Keynote Speakers & Topics:

- Dr. John Chitty (UK) – *Exotic Pet Practice*
  Renowned avian and exotic pet specialist, shared protocols and updates in exotic animal care.
- Dr. Antonio Giuliano (Hong Kong) – *Small Animal Oncology*
  Presented advancements in cancer diagnostics and multimodal therapy in dogs and cats.
- Dr. Thillai Koothan (USA) – *Reproductive Biology*
  Delivered lectures on canine and feline reproductive physiology, fertility management, and AI techniques.
- Dr. Angel Almendros (USA) – *Small Animal Pediatrics*
  Focused on the clinical approach, neonatal care, and early disease detection in puppies and kittens.

### Acknowledgement

PPAM congratulates SAPAC–Tamil Nadu for the successful execution of the symposium and thanks the WSAVA and FSAPAI for continuing to support advanced veterinary education in India.

## WSAVA–FSAPAI National Symposium 2025 Report

Event : 22nd WSAVA Continuing Education (CE) & 15th FSAPAI CE (National Symposium)

Dates : 18th–20th April 2025

Venue : Gyan Bhavan, Patna, Bihar

Host : Pet Practitioners Association of Bihar (PPAB)

Total Registrations : 427 participants

### Symposium Highlights

The 22nd edition of WSAVA CE, held in conjunction with the 15th FSAPAI National Symposium, brought together national and international experts in clinical veterinary science, offering attendees access to the latest in global veterinary knowledge.

### Key International Speakers:

- Dr. Sterenn Genewe – Acupuncture
  Delivered an insightful session on acupuncture's therapeutic applications in small animal practice.
- Dr. Kishor Mahind (UK) – Soft Tissue & Orthopedic Surgery
  Covered advanced surgical techniques, pre-and post-operative care, and clinical case studies.

### Indian Expert Contributions

A wide range of accomplished Indian veterinarians contributed to the scientific program, sharing their clinical expertise across specialties.

PPAM takes great pride in announcing that two of its distinguished members were featured as key speakers:

- Dr. Nihar Jayakar – Exotic Animal Surgery & Medicine
  Presented pioneering clinical cases and best practices in the care of exotic pets.
- Dr. Madhavi Awle – Dermatology
  Delivered an engaging and informative session on diagnostic dermatology and treatment strategies.

### Acknowledgement

PPAM congratulates PPAB for hosting a successful national symposium and extends gratitude to WSAVA and FSAPAI for continuing to provide a global platform for veterinary learning. Special appreciation is extended to all speakers and participants who made this event a grand success.

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- Canine Chronic Bronchitis (COPD)
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DROOLS ARTICLE

# Innovative Therapies for Feline Asthma and Canine COPD: The Role of Antihistamines and Leukotriene Inhibitors

**Dr. Ivanka Marie Fernandes**
B.V.Sc & A.H (Mumbai)
Product Manager, Drools Pet Food Pvt. Ltd.

***Abstract:***

Feline asthma and canine chronic obstructive pulmonary disease (COPD) are chronic inflammatory airway diseases with overlapping but species-specific pathophysiologies. Conventional therapies focus on bronchodilation and corticosteroid-mediated suppression of inflammation. However, emerging evidence supports the integration of antihistamines and leukotriene inhibitors into treatment regimens to better control inflammation and reduce reliance on glucocorticoids. This review highlights the immunopathogenesis of these conditions and evaluates the therapeutic potential of antihistamines and leukotriene modifiers in combination therapy, with emphasis on emerging modalities and translational relevance from human medicine.

## 1. Introduction

Chronic lower respiratory diseases such as feline asthma and canine COPD represent a significant burden in small animal practice. Both are characterized by progressive airway inflammation and airflow limitation, though their underlying immunologic profiles differ. Feline asthma is primarily a hypersensitivity-mediated, eosinophilic condition, whereas canine COPD involves neutrophilic inflammation and airway remodeling often triggered by irritants.

Standard treatment modalities, principally glucocorticoids and bronchodilators are effective for many patients but carry long-term side effects and may not address the full spectrum of inflammatory mediators involved. Therefore, interest in adjunctive therapies such as antihistamines and leukotriene receptor antagonists (LTRAs) is growing. This article explores the pathophysiology of both diseases and reviews recent developments in the use of these alternative agents in combination therapy.

## 2. Pathophysiology

### 2.1 Feline Asthma

Feline asthma involves a Type I hypersensitivity reaction to inhaled allergens, leading to Th2-mediated release of IL-4, IL-5, and IL-13. This cascade promotes eosinophilic infiltration, mast cell activation, and IgE production, culminating in bronchoconstriction, edema, and mucus overproduction. Key inflammatory mediators include:

- Histamine: Released from mast cells, it increases vascular permeability and causes bronchial smooth muscle contraction.
- Leukotrienes (LTC4, LTD4, LTE4): Potent bronchoconstrictors that also recruit eosinophils and promote mucus secretion.

### 2.2 Canine COPD

In contrast, canine COPD (often referred to as chronic bronchitis) is a non-reversible, progressive disease resulting from chronic exposure to environmental pollutants or recurrent respiratory infections. It features:

- Neutrophilic inflammation
- Goblet cell hyperplasia and increased mucus production
- Airway remodeling and fibrosis

Leukotrienes, especially LTB4, contribute to neutrophil chemotaxis and sustained airway inflammation. Histamine's role is less dominant than in feline asthma but may contribute to bronchial reactivity in sensitized animals.

## 3. Results and Discussion

### 3.1 Standard Therapies and Limitations

Conventional treatment involves:

- **Glucocorticoids:** Systemic (prednisolone) or inhaled (fluticasone) steroids suppress inflammation.

- **Bronchodilators:** β2-agonists such as terbutaline or albuterol relieve bronchospasm.
- **Supportive medications:** Mucolytics and antibiotics are common in canine COPD.

Despite their efficacy, prolonged steroid use is associated with insulin resistance, immunosuppression, and adrenal suppression. Resistance or inadequate response to therapy is not uncommon, warranting exploration of alternative agents.

### 3.2 Antihistamines

Antihistamines act by blocking histamine at H1 receptors, mitigating effects such as bronchoconstriction and mucosal edema. In cats with asthma, mast cell degranulation and histamine release are pivotal events.

- **Cetirizine** and **loratadine** have shown promise in reducing airway inflammation in experimental feline models (Lee et al., 2016).
- In dogs, antihistamines may help reduce cough reflex sensitivity in COPD, particularly in animals with overlapping allergic disease.

Veterinary-specific data remain sparse, but case series and owner-reported outcomes suggest potential benefits, especially when used as add-on therapy.

### 3.3 Leukotriene Inhibitors

LTRAs such as **montelukast** and **zafirlukast** inhibit the CysLT1 receptor, thereby reducing bronchoconstriction, eosinophil chemotaxis, and mucus hypersecretion.

- In **cats**, montelukast demonstrated attenuation of eosinophilic inflammation and improved airway resistance in controlled studies.
- In **dogs**, evidence is primarily anecdotal or extrapolated from human COPD management, though montelukast is occasionally used off-label.

Zileuton, a 5-lipoxygenase inhibitor, is another potential candidate, though veterinary trials are lacking.

### 3.4 Combination Therapy

The addition of antihistamines and LTRAs to conventional regimens may yield:

- **Improved control of nocturnal cough and dyspnea**
- **Reduced reliance on corticosteroids**
- **Targeted modulation of histaminergic and leukotriene-mediated pathways**

Combination therapy may be especially useful in:

- Cats with moderate to severe asthma unresponsive to inhaled steroids alone
- Dogs with chronic bronchitis showing frequent exacerbations despite optimal medical therapy

Multimodal therapy may also delay disease progression by mitigating airway remodeling, although long-term trials are needed.

## 4. Emerging Therapies

Innovative approaches include:

- **Biologic therapies** (anti-IL-5, anti-IgE): Approved in humans; under investigation in veterinary medicine.
- **Nanoparticle-based inhalation delivery** of LTRAs for targeted action.
- **Stem cell therapy**: Preliminary canine trials suggest potential in reversing airway damage.
- **Precision medicine:** Identifying cytokine profiles to guide personalized treatment strategies.

## 5. Conclusion

Feline asthma and canine COPD share overlapping mechanisms involving histamine and leukotrienes. While glucocorticoids and bronchodilators remain first-line, the addition of antihistamines and leukotriene inhibitors offers a promising therapeutic avenue. With emerging research and translational insights from human medicine, combination therapy may redefine long-term management in veterinary pulmonology. Larger clinical trials and standardization of dosing protocols are essential for their broader adoption in routine practice.

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# Educational Initiative at Mumbai Veterinary College

***(In puts from Dr. S. D. Tripathi, Asso Prof Surgery)***

1. Three-day International Training Programme on Radiology and Radiological Interpretations in Small Animal Practice (23rd to 25th April) was organized by the Department of Surgery and Radiology, Mumbai Veterinary College. 17 veterinarians from all over India took part in this training programme which included lectures and practical sessions under expert faculty such as Dr. S. P. Tyagi and Dr. Kiran Bendhale, Scientist ATREC. Visits were arranged to Fredna Vet Diagnostics and Uptown Vets where the participants were given demonstration on CT scan and C-arm. The president and Chief guest of the Valedictory function was Dr. S. D. Ingole, AD, MVC.

2. Total Hip Replacement: Insights from Dr. Jha's Practice: The Department of Surgery and Radiology, Mumbai Veterinary College organised a lecture on Total Hip Replacement: Insights from Dr. Jha's Practice by Dr. Shantibhushan Jha, Chief Vet, Austin and an alumnus of our college on 27th May 2025. More than 20 staff and students and alumni of other Veterinary colleges of MAFSU also joined the lecture through Google online meet.

3. Small Animal Thoracic and Abdominal Ultrasonography: The Department of Surgery and Radiology, MVC organized a three-day international training programme on "Small Animal Thoracic and Abdominal Ultrasonography" from 16th June to 18th June 2025. Twenty-five participants from all over India took part in this training. Dr. Adarsh Kumar, Professor VSR and Head TVCC, College of Veterinary Science, Palampur and Dr. Sunetra Wadke, Renowned Vet Clinician and Sonologist, Mumbai were the invited speakers.

4. Advanced Veterinary Diagnostic Facilities and Animal Ambulance cum Mobile Veterinary Clinic: The inaugural function of "Advanced Diagnostic Imaging Minimally Invasive and ambulance cum Mobile Veterinary Clinic" of the Department of Surgery and Radiology was held on 23.06.2025. This advanced center is now equipped with latest diagnostic imaging and minimally invasive facilities such as C-arm, X-ray unit with CR system, USG machine with thoracic and abdominal probes, Gastroscope, Cystoscopy, Laparoscope, Anaesthesia machine with. ventilator for small animals, Operating microscope and Phaecoemulsification unit and Mobile animal ambulance cum clinic. The dignitaries inaugurated the Konshila, multi-specialty operation theatre, C-arm machine, Anaesthesia machine with ventilator and the Animal Ambulance on 23rd June 2023.

# Successful Surgical Management of Congenital Diaphragmatic Hernia in a Male Kitten

**Dr. S. V. Gaikwad, Dr. S. D. Tripathi, Dr. G. S. Khandekar, Dr. Manik Jadhav, Dr. Monika Sonar and Dr. Vedika Mhatre**

A male kitten of 550 gm was presented to the Department of Surgery and Radiology, MVC, with history of respiratory distress, anorexia along with abdominal breathing. X-ray confirmed the diaphragmatic hernia in which organs including small intestines, liver and spleen were herniated in thoracic cavity. The kitten was operated for congenital DH under mechanical ventilation using isoflurane as sole anaesthetic agent by Dr. S. V. Gaikwad, Associate Professor. The post operative x-ray confirmed successful reduction of all organs back into abdominal cavity. It recovered uneventfully with near normal respiration immediately after the surgery.

## Appeal to PPAM Members to Renew Membership

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# The Veterinary Doctor and Pet Parent Relationship: A Partnership of Compassion and Care

**Dr. Madhura S. Vishwasrao**
M.V.Sc (Surgery)


In the world of animal healthcare, few relationships are as essential–and as heartfelt–as that between a veterinary doctor and a pet parent. It's a unique partnership that blends medical science, communication, trust, and deep emotional understanding, all in service of one shared priority: the health and happiness of an animal companion.

**A Bond Built on Trust:** When a pet parent walks into a veterinary clinic, they're not just seeking treatment–they're entrusting their beloved companion, often considered a family member, into the hands of a veterinary professional. This trust is the cornerstone of the relationship. Over time, it is earned through the veterinarian's clinical competence, ethical conduct, and consistent empathy toward both the animal and the human on the other end of the leash.

**Communication:** The bridge between science and emotion. Clear, honest, and compassionate communication is key. Veterinary doctors must translate complex medical information into actionable, understandable advice. But more importantly, they must be able to listen—to the pet parent's concerns, observations, and emotions. For many pet parents, a veterinary consultation is not just a medical visit; it's an emotionally charged experience, especially when their animal is unwell. The best veterinarians balance clinical clarity with human warmth, helping pet parents feel heard and supported.

**Shared Responsibility in Pet Health:** Caring for an animal is a team effort. Veterinary doctors diagnose, treat, and advise. Pet parents, in turn, are responsible for daily care, follow-ups, administering medications, and monitoring subtle changes. The best outcomes are achieved when both parties work in tandem, each playing a critical role in the pet's well-being.

*Recently on our PPAM WhatsApp group there were lot of discussions among our members on Veterinary doctor and pet parent relationship. Following is a small input from the Editor. Your feedback on this writeup to editordrvishwasrao@gmail.com is most welcome. We would love to publish your feedback in the next issue of our Bulletin.*

**Compassion in Difficult Moments:** One of the most poignant aspects of this relationship is the emotional support vets offer during challenging times–such as chronic illnesses, surgeries, or end-of-life decisions. Veterinarians often become counsellors and comforters, walking alongside grieving families as they navigate tough choices with love and dignity.

**Educating and Empowering Pet Parents:** A key part of veterinary care today is preventive education. From nutrition and vaccinations to behavioural cues and early warning signs, veterinarians empower pet parents with the knowledge they need to provide better care. An educated pet parent is an active participant in their animal's lifelong health.

**Mutual Respect and Understanding:** This relationship flourishes when it is grounded in mutual respect. Pet parents respect the vet's training, experience, and dedication. Veterinarians, in turn, recognize the deep bond between pet and parent, and value the pet owner's insights and intuition about their companion.

**A Partnership That Evolves:** The veterinary doctor–pet parent relationship is not a one-time interaction. It is a dynamic, evolving journey, from the first vaccinations of a playful pup or kitten to the sensitive geriatric care of a senior companion. It's a partnership where science meets soul, and where every decision is guided by care, compassion, and respect.

"Behind every healthy pet is a dedicated vet and a loving pet parent working together with one heart."

As we move forward in advancing veterinary medicine, let us continue to honour and strengthen this precious bond–because it is at the very heart of why we do what we do.

# Proud Moment for PPAM Members

## Dr. Deepa Katyal

**Dr. Deepa Katyal Engineer** PPAM member was given wide publicity by the Daily news paper when she treated a parrot with neurological problems using the aid of an x-ray machine and an MRI of brain and spine was done. Later acupuncture was also included as part of treatment. The parrot did respond to treatment favourably.

# Parrot with neurology issue gets MRI scan, acupuncture

Alex.Fernandes
@timesofindia.com

**Mumbai:** A parrot was put through an MRI scan and is undergoing acupuncture for a neurological disorder. Found by a car-washer under a vehicle in Chembur, the bird has ataxia — a neurological problem — but is showing signs of slow recovery.

When it was found under a car, the parrot kept trembling. It could not bend its neck to have water from a bowl nor could it bite into food. An x-ray did not show anything much, said Dr Deepa Katyal Engineer who is treating the bird. "It had a traumatic injury to the tail. The shaking of its body pointed to ataxia which could be a neurological issue," said the vet, who specialises in pain management with special interest in neurological disorders.

For a conclusive diagnosis, an MRI scan of the brain and spine was done at a facility for humans. "We needed to first be sure if it was a neurological issue. If yes, whether or not it was reversible," said Dr Katyal. To get the bird under the MRI machine, it had to be administered anaesthesia.

The bird, also being treated with phototherapy, is now showing signs of recovery

While doing an MRI scan, movement is not allowed, while this bird was constantly moving. "Images would not have been possible without anaesthesia," the vet said, adding that a respiratory tube was attached to the little bird as an airway access while using injectable anaesthesia.

The scan detected changes in the area of injury which pointed to lack of coordination between muscle and nerves. Also, the bird's tail bone, which has nerve endings, was affected. "The spinal nerve bundle also had inflammation," said Dr Katyal.

The parrot is being administered painkillers, phototherapy and acupuncture. "Birds can't be over-medicated with drugs as blood flow to the liver and kidneys can get reduced, affecting their function long term," said the vet treating the bird at her clinic, Animal Wellness & Rehabilitation Centre, Chembur.

The bird is being given acupuncture treatment thrice a week. Acupuncture helps strengthen the nerves. Dr Katyal said. It is also being treated daily with 'phototherapy', an advanced therapy in pain management which improves blood flow and reduces inflammation. It helps improve the affected part and helps regenerate new cells.

In less than a week, the parrot started taking baby steps, and pecking at food, including being able to strip sunflower seeds. "It is walking slowly, but still staggers... Overall, it is showing improvement," said the doctor. "I hope its tail injury will regenerate into normal functioning soon, though such issues can take months."

## Dr. Ami Sanghavi

**Dr. Ami Sanghavi PPAM** member from Mumbai was highlighted in Mumbai newspapers as she has started providing Class 4 deep tissue laser therapy, a non-invasive treatment for pets to reduce pain and inflammation and accelerate tissue healing.

PLUG OUT

# Healing touch for your furries

WHEN your pet is ill, you feel as terrible as they do, and you'd do anything to help them recover quickly and ease their pain. Dr Ami Sanghavi at Pet's Paradise in Pedder Road and Tardeo (the latter is a 24x7 animal hospital) provides Class 4 deep tissue laser therapy, a non-invasive treatment that uses a high-powered laser to reduce pain and inflammation and accelerate tissue healing. It works by delivering photo bio modulation energy deep into tissues, stimulating cellular activity and promoting healing. This therapy is commonly used for sports injuries and post-surgical recovery — and now pets can benefit from it too. "This can reduce the need for oral medication, and also helps exotic pets such as birds," says Dr Sanghavi.

Dr Ami Sanghavi treating a bird with the Class 4 deep tissue laser therapy

IG:@_pets_paradise
Contact: 9821012214

## Dr. Milind Hatekar

**Dr. Milind Hatekar** PPAM member at PETAID small Animal Clinic in Pune has used Laser lithotripsy as an alternative to traditional cystotomy for urinary bladder stones in two pugs.

## Dr. Mukulesh Gatne

**Dr. Mukulesh L. Gatne** Former Professor and University Head Veterinary Parasitology delivered a webinar on:

1. Clinical epidemiology of CVBD: Indian Scenario. on 17.05.2025
2. Diagnosis and Management of CVBDs on 23.05.2025
3. Management of Canine Demodicosis on 31.05.2025.

## Dr. Gaurav Khandekar

**Dr. Gaurav Khandekar** PPAM member was also given wide publicity in news media when a foreign body was removed by Endoscopy from the trachea of a three month old stray dog.

# Bone stuck in windpipe, pup struggles to breathe

Alex.Fernandes
@timesofindia.com

**Mumbai:** A puppy was found gasping for breath after a bone got lodged in its windpipe. The stray dog, about three months old and weighing around 6 kg, had difficulty breathing. An animal rescue volunteer took the puppy from Seawoods in Navi Mumbai, to a veterinarian's clinic where a two-hour-long procedure was performed on Tuesday to bring out the bone.

The rescuer, Gayatri Subramanian, said that the stray puppy, Brownie, had suddenly become subdued. "Usually, he is the first one to gobble up food, but on that day he refused to eat anything," she said, adding that she even tried to ply Brownie with his favourite treats, but the pup simply refused to eat. The canine was retching intermittently as if trying to bring out something from within, she added.

She took the pup to a local veterinarian's clinic who pointed out that something had been lodged in the trachea.

**DOG & THE BONE:** The object was removed via bronchoscopy

This vet advised an urgent procedure. "He said there was something near the lungs."

Brownie was bundled up into an autorickshaw and taken to Suyash Pets Clinic, Tilak Nagar, which has the medical equipment required for the procedure.

A bronchoscopy showed "radio-opaque material lodged in the trachea", or the windpipe, said Dr Gaurav Khandekar, veterinary physician and endoscopist. This procedure involved lowering of a camera-attached medical equipment into the trachea. The equipment can not only detect foreign objects, but also fish them out, he explained.

"The bone was sharp, about 3 cm to 4 cm-long. The dog's condition was bad... it was breathless and was choking," Dr Khandekar said, adding that the bone had caused injury to the lungs and trachea. The foreign object was blocking the air pathway, and the canine was not getting enough oxygen it needed to breathe.

Had not the bone been removed, it could have eventually caused bronchitis or, worse still, proved fatal considering the internal injury, said Dr Khandekar.

The pup is slowly getting better now and is being fed semi-solid food, said Subramnian who is currently fostering him. Brownie will be back with his mother and eight siblings once he's hale and hearty.

## Dr. Atul Patil

**Dr. Atul Patil PPAM** member has initiated a new project for transportation of Pets. ICU pet Ambulance and transportation service.

VetSaathi Animal Ambulance & Pet Transportation Services. Whether it's an emergency or a routine vet visit, Grooming visit, Pet store visit and pet boarding visits -

He claims its Safe & Hygienic, ambulance has trained staff & emergency support and added feature is will get Real-Time Updates and ultimately its a Stress-Free Travel for the pet.

## Dr. S. D. Tripathi

**Dr. S. D. Tripathi Associate** Professor, Department of VSR, MVC was the lead speaker for the Cat series organized by Awadh Pet Practitioners Association Lucknow on 08.06.2025. He delivered his talk on GIT and UT surgeries in cats.

# Dr. G. S. Khandekar


Continuous Education Program organized on the occasion of World Veterinary Day: Dr G. S. Khandekar, Professor and Head, Department of Veterinary Surgery and Radiology delivered a lecture on " Recent trends in small animal anesthesia" and Dr. J. G. Gudewar, Associate Professor, Department of Veterinary Parasitology delivered a lecture on "Recent trends in haemoprotozoan diseases" on 3rd May 2025 at Sangli in a one day Continuous Education Program organized on the occasion of World Veterinary Day jointly by MAHAVET and Animal Husbandry Department, Sangli and Blue Cross Welfare Foundation, Sangli, sponsored by Fredun Pharmaceutical. The program was attended by 100 vets including pet practitioners and LDOs of Sangli and Kolhapur Districts.

# Dr. Ishwari Badgujar

## Breaking New Grounds in Veterinary Innovation: First-Ever Technical Workshop at Indian Institute of Technology (IIT), Bombay.

Pioneering Veterinary - Tech Collaboration of IIT, Bombay and PPAM Under BETiC's Visionary Support. In a historic and groundbreaking initiative, Dr. Ishwari, a young and dynamic veterinarian, successfully organized a first-of-its-kind veterinary technical workshop at the prestigious Indian Institute of Technology, Powai, Mumbai. Under the esteemed guidance of Dr. Rupesh Ghyar, Sr. Executive Officer, BETiC, IIT Bombay. Workshop Focus was on Addressing Unmet Clinical Needs through Innovation. The workshop's core objective was to explore the intersection of veterinary clinical practice and emerging medical technologies.1, Key domains discussed 1. Artificial Intelligence applications for pet care and improving pet-owner experiences. 2. Innovative and cost-effective implant solutions for companion animals. Real-world challenges faced by veterinary practitioners, aiming to co-develop functional solutions with the engineering domain. Renowned senior veterinary practitioners from Mumbai and Navi Mumbai were invited and actively participated in panel discussions and technical brainstorming Dr. Ishwari Badgujar had become perhaps the youngest and the first female veterinarian to collaborate with BETiC, IIT Bombay, contributing to creative and applied biomedical device development not just for humans, but for animals too. This workshop stands as a testament to the importance of intersectoral collaboration and serves as a call to action for continued efforts in veterinary innovation. The overwhelming appreciation and active engagement from Mumbai's top veterinary experts not only validated the importance of the event but also reinforced the need for such progressive, clinically-grounded and technology-driven initiatives in the veterinary domain. Dr. Ishwari's initiative, combining youth, expertise, and vision is a milestone for veterinary innovation in India with far reaching implications for research, practice, and policy.

# Dr. Shriniwas Vishwasrao

Dr. Shriniwas V. Vishwasrao delivered a talk in CE program in Bhubaneshwar, Odisha on 11.05.2025 and in Mysuru, Karnataka on 15.06.2025.

Dr. Shriniwas V. Vishwasrao delivered a talk on Radiology and its application and integration in General Practice and Small Animal Surgery. Eighty six veterinarians attended the CE which included senior government doctors, young veterinarians, zoo veterinarians and faculty of College of veterinary Science Bhubaneshwar on 11.05.2025.

Talk was delivered in Mysuru on 15.06.2025 on Radiology Integration in Small Animal Clinics: Focus on Osteoarthritis Care.

Mysuru, Karnataka -15.06.2025

Bhubaneshwar, Odisha -11.05.2025

VET-PRO

drools

# Effectiveness of VET- PRO renal in dogs with chronic kidney disease (CKD)

The study was conducted at the Veterinary Hospital of the Veterinary College in Hebbal, Bengaluru. Dogs diagnosed with chronic kidney disease (CKD) based on their history, clinical signs, hematology, biochemistry, and ultrasonography were staged according to the guidelines of the International Renal Interest Society (IRIS). Dogs in stages II and III of CKD were selected for various therapeutic regimens. Additionally, eight healthy dogs, aged between four and seven years, were included as a control group for comparison.

## Therapeutic Regimens:

- *Group I:* Eight dogs with stage II or III CKD were treated with conventional therapy.
- **Group II:** Eight dogs with stage II CKD were treated with conventional therapy along with the VET-PRO renal diet.
- *Group III:* Eight dogs with stage III CKD were treated with conventional therapy along with the VET-PRO renal diet.

## Effectiveness of Diet in Treating CKD in Dogs:

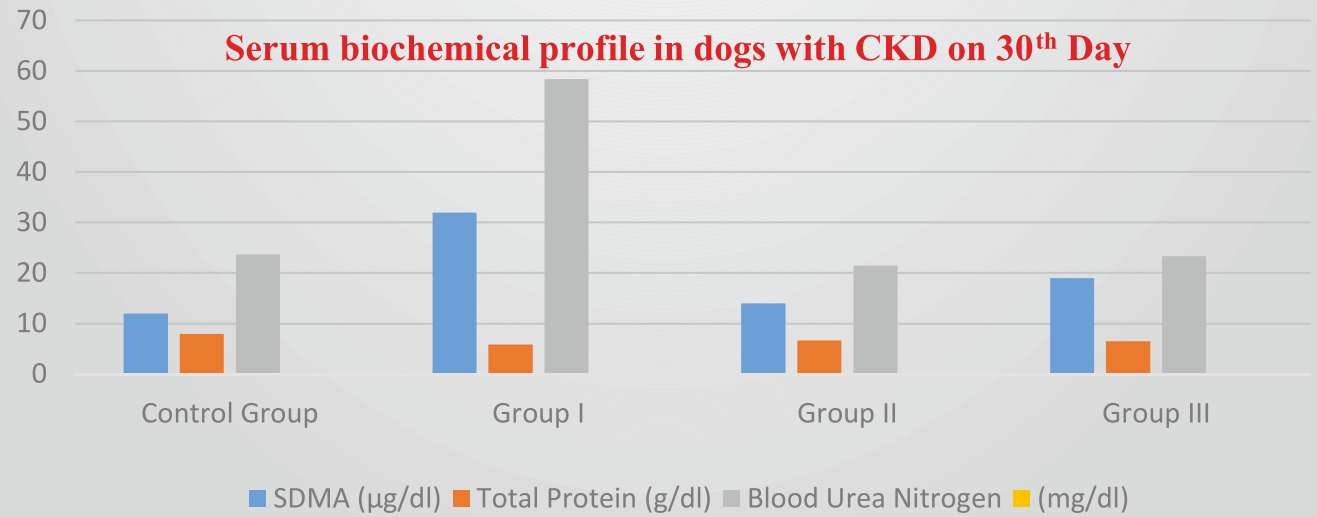
Clinical symptoms improved by the 10th to 12th day in Group I (conventional therapy only) and by the 5th to 7th day in Groups II and III (VET-PRO renal diet with conventional therapy). No recurrence of symptoms was observed throughout the therapy period for Groups II and III.

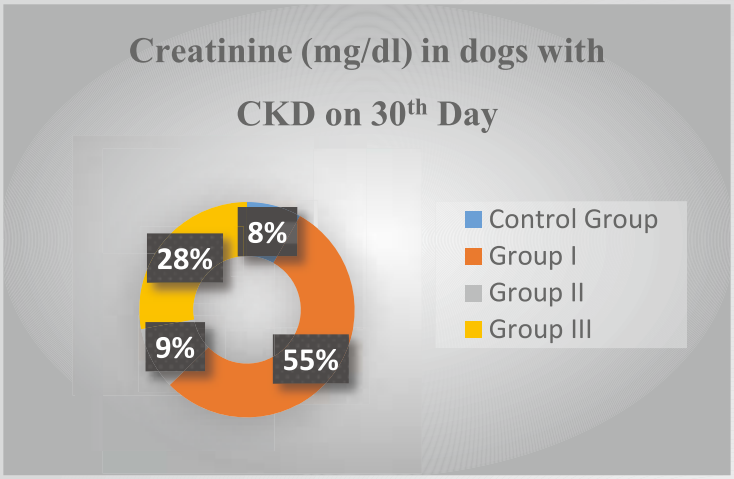
## Haematobiochemical Improvements:

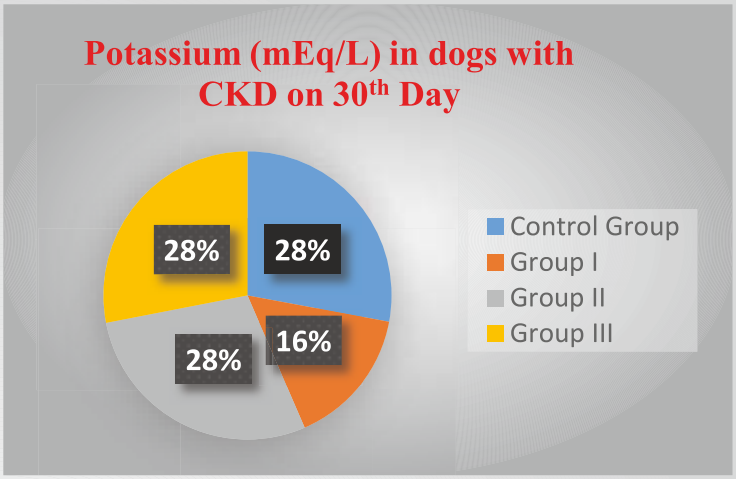
Haematobiochemical improvements included increased haemoglobin (Hb) levels to 13.88 ±0.58 g/dL in Group II and 12.9 ±0.69 g/dL in Group III, compared to 9.24 ±0.42 g/dL in Group I, indicating enhanced oxygen-carrying capacity. Packed cell volume (PCV) also increased to 43.76 ±1.65% in Group II and 41.24 ± 1.45% in Group III, compared to 32.22 ±1.26% in Group I. Additionally, the total erythrocyte count (TEC) rose to 6.2 ±0.23 × $10^6$/µL in Group II and 5.68 ±0.12 × $10^6$/µL in Group III, compared to 4.68 ±0.68 × $10^6$/µL in Group I.

## Renal Function Parameters:

Symmetric dimethylarginine (SDMA) levels reduced to 14 ±3.2 µg/dL in Group II and 19 ±1.8 µg/dL in Group III, compared to 32 ±2.2 µg/dL in Group I, indicating significant improvement in renal function. Creatinine levels decreased to 0.46 ±0.38 mg/dL in Group II and 1.36 ±0.67 mg/dL in Group III, compared to 2.66 ± 0.51 mg/dL in Group I, demonstrating enhanced kidney filtration. Blood urea nitrogen (BUN) levels reduced to 21.48 ±6.92 mg/dL in Group II and 23.38 ±2.1 mg/dL in Group III, compared to 58.4 ±8.60 mg/dL in Group I, indicating improved removal of waste products from the blood.





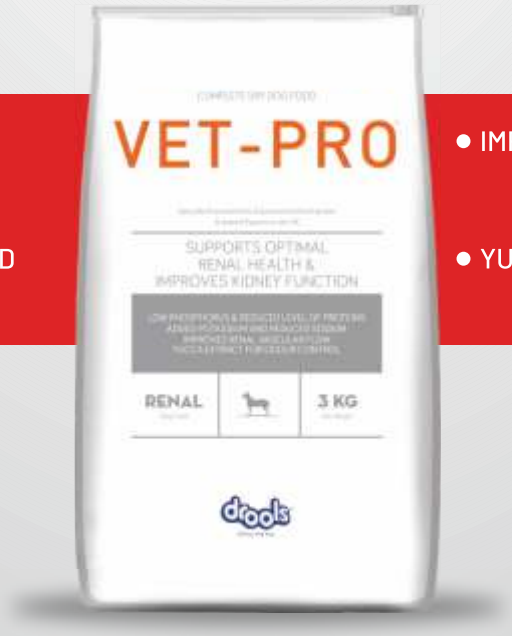

**Electrolyte Balance:**
Potassium levels improved to 4.42 ±0.14 mEq/L in Group II and 4.36 ±0.08 mEq/L in Group III, compared to 2.42 ±0.13 mEq/L in Group I, due to the VET-PRO renal diet, which helped maintain normal electrolyte balance. Sodium and phosphorus levels were also reduced to normal by day 30 in Groups II and III. The dietary phosphorus restriction in the VET-PRO diet helped prevent hyperphosphatemia and its associated harmful effects.

**Protein Status:**
Total protein and albumin levels showed a non-significant increase in Groups II and III, indicating improved protein status. The use of high-quality protein diets reduced kidney strain, preserved lean body mass, and potentially extended survival times for dogs with CKD.

**Overall Health Improvement:**
Dogs on the VET-PRO renal diet demonstrated significant health improvements over three months, with no adverse changes in stool colour or consistency. The diet was well accepted, and fecal odour was reduced due to the inclusion of Yucca schidigera extract.

**Conclusion:**
The VET-PRO renal diet, when used alongside conventional therapy, significantly improved clinical symptoms, haematobiochemical parameters, and renal function in dogs with CKD, highlighting its effectiveness in disease management. The improvement in renal function and protein status underscores the importance of high-quality protein in reducing kidney strain and promoting longer survival in CKD dogs.

- LOW PHOSPHORUS & REDUCED LEVEL OF PROTEINS
- ADDED POTASSIUM AND REDUCED SODIUM
- IMPROVES RENAL VASCULAR FLOW
- YUCCA EXTRACT FOR ODOUR CONTROL



# Pet Practitioners Association of Mumbai (PPAM) Annual Report 2024–2025

**Dr. Makarand Chavan**

## Key Highlights of the Year

PPAM continued its strong tradition of providing high-quality continuing education (CE) programs, community outreach, academic collaborations, and industry networking initiatives during 2024–2025. With strong national and international partnerships, the association witnessed vibrant participation, significant recognition, and impactful veterinary community engagement.

### 1. Pre-AGM & AGM 2024

**Date:** 18th August 2024

**Venue:** The Club, Andheri West, Mumbai

**Topic:** Clinical Pathology

**Speaker:** Dr. Sachin Kumthekar, M.V.Sc (Pathology)

**Sponsored by:** Bowlers, Allana

**Highlights:** The CE was followed by the PPAM Annual General Meeting 2024.

### 2. CE on Lameness in Pets

**Date:** 7th July 2024

**Venue:** Hotel Trident, Bandra Kurla Complex, Mumbai

**Speaker:** Dr. Amrita Deb, B.V.Sc & A.H, MSc, MRCVS

**In Association With:** Bowlers & Allana

**Attendance:** 150+ members

**Focus:** Clinical approaches and management of lameness in companion animals.

### 3. World Rabies Day Initiative

**Period:** August–September 2024

**Partner:** Boehringer Ingelheim

**Contribution:** 10,000 doses of ARV

**Collaborators:** MCGM VHD, NGOs, and PPAM members

**Impact:** Massive outreach to stray animal population in Mumbai for rabies control.

### 4. PPAM–PDAP Lonavala CE Event

**Date:** 29th September 2024

**Topic:** Small Animal Anesthesia and Surgery Speakers:

- Dr. Vinay Bhagat – Anesthesia & Analgesia
- Dr. Sanjana Karve – Suture Techniques

Sponsors: Pet Care by Rossari

Collaborators: Pet Doctors Association of Pune

Attendance: High turnout of practitioners from Mumbai and Pune.

### 5. Trailblazer 2024 Award at IIPTF

**Date:** 5th October 2024

**Event:** India International Pet Trade Fair

**Venue:** Grand Blossom by Radisson, Goregaon

**Recognition:** PPAM received the Trailblazer 2024 Award for excellence in veterinary education.

**Presented by:** Ms. Linda Hawke, Convener, IIPTF

**Awarded to:** Dr. Dhananjay Bapat (President) & Dr. Makarand Chavan (Secretary)

### 6. Cardiology Summit 2024

**Date:** 9th November 2024

**Venue:** The Orchid Hotel, Mumbai

**Organizers:** PPAM & SAVA VET

**Speakers:**

- Dr. Gerhard Wess (University of Munich)
- Dr. Sangeeta Vengsarkar Shah
- Dr. Bhanu Dev Sharma
- Dr. Ranjitha Tiwari

### 7. Meet the Industry – 15

**Date:** 8th December 2024

**Venue:** Thane

**Morning:** Cricket Match (PPAM vs Industry)

**CE Topic:** Understanding Canine Respiratory Language

**Speaker:** Dr. Venkhatesh, SAPAC TN

**Special Highlights:**

- Most Valuable Contribution Award 2024: Dr. Kirtikumar Bhailal Doshi
- MAFSU Toppers Felicitation: Memento + Rs. 5,000 + Travel allowance
- Main Sponsor: Allana Bowlers
- Launches: PPAM Diary & Directory 2025, MI15 Corporate Exhibition
- Concluding Events: DJ Night & Gala Dinner

### 8. Outreach Event at MVC, Goregaon

**Date:** 9th December 2024

**Honorees:**

- Ms. Thulasimathi Murugesan – Paralympic Medalist
- Dr. Kiruttigha Murugesan – BVSc Graduate, Civil Services Aspirant

**Audience:** 200+ UG students and faculty

**Highlights:** Inspiring interaction and appreciation of sports achievements.

### 9. Alternative Medicine CE

**Date:** 23rd February 2025

**Venue:** Hotel Peninsula Grand, Andheri

**Speakers:**

- Dr. Xie Huisheng Xie (Chi University, USA) – Acupuncture
- Dr. Akshay Shah – Clinical Demo
- Dr. Gautam Unny – Homeopathy in Practice

### 10. Exotic Animal Surgery & Medicine CE

**Dates:** 22–23 March 2025

**Venue:** V.J. Bhosale Botanical Garden & Zoo, Byculla

Speakers:

- Dr. Manfred & Dr. Claudia Hochleithner (Austria)

**Collaborators:** VPWA, Mumbai Zoo, MCGM

**Participants:** 202 veterinarians over 2 days

### 11. PPAM Annual Day

**Date:** 23rd March 2025

**Venue:** Mumbai Zoo Auditorium

**Total Attendance:** 340 (PPAM, VPWA, Zoo staff, families)

**Activities:**

- **Nature Programs:** Tracks, Trails, and Tales (By NGO Naturalist Explorers)
- **Celebrity Guest:** Mr. Arun Kadam – Safety Awareness Session
- **Play:** The Cultured Vulture by Vanyavani – Supported by Dr. Percy Avari & Dr. Shiwani Tandel

### 12. International CE – Bangkok, Thailand

**Dates:** 18–19 January 2025

**Venue:** Hotel Biok Sky & Chulalongkorn University

**Participants:** 140 PPAM members

**Topics & Trainers:**

- **Ultrasound:** Dr. Makarand Chousalkar / Prof. Dr. Tiziana Liuti
- **Dentistry:** Dr. Kishor Mahind / Dr. Jerzy Gawor Support & Coordination:
- **Sponsors:** PCIN, SAVAVET
- **Key Contributors:** Dr. Nishit Gokarn, Dr. Chalika Wangdee (Chulalongkorn Univ.)

### 13. 2-Day CE at Peninsula Grand

**Dates:** 24–25 May 2025

**Venue:** Hotel Peninsula Grand, Andheri

**Topics & Speakers:**

- Radiology: Dr. Arun Anand (GADVASU)
- Orthopedic Surgery: Dr. Milind Hatekar (Pune)
- CKD Management: Dr. K. G. Umesh (Bangalore)

**Participants:** 94

**Sponsor:** Enavant Petcare

### Closing Note

The PPAM Managing Committee extends heartfelt gratitude to all sponsors, partners, speakers, volunteers, and members for their continued support and participation throughout the year. The association remains committed to professional excellence, educational outreach, and community welfare in veterinary practice.

## Reader Notice

**We kindly request our esteemed readers of the PPAM Bulletin to inform the Editor if you prefer to receive an e-copy (electronic version) of the bulletin instead of the printed version.**

**This initiative supports eco-friendly practices and ensures timely delivery.**

**Please email your preference to: editordrvishwasrao@gmail.com**

DROOLS ARTICLE

# Nutritional Management of Obesity in Dogs: Mechanisms, Nutritional Strategies, and Role of Therapeutic Diets

**Dr. Pooja Ch**
M.V.Sc (Veterinary Biochemistry),
Veterinary Product Specialist, Drools Pet Food Pvt. Ltd.

## 1. Introduction

Canine obesity is an increasingly common metabolic disorder, defined by excessive fat accumulation and disrupted energy balance. It significantly increases the risk of orthopedic disease, endocrine dysfunction, systemic inflammation, and reduced lifespan, making it a growing concern in veterinary medicine.

Obesity is typically diagnosed using body condition scoring (BCS), with scores ≥7/9 indicating obesity (Laflamme, 1997). Prevalence estimates range from 30% to 60% among pet dogs globally (German, 2006), emphasizing the need for effective intervention. The condition arises from a chronic energy imbalance, influenced by genetics, hormones, behavior, and environment. Nutritional management is central to treatment, focusing on controlled energy intake, optimized macronutrient composition, and sustained owner compliance. Therapeutic diets apply these principles to promote safe, effective, and lasting weight reduction.

## 2. Pathophysiology of Obesity in Dogs

Obesity is not simply a result of caloric excess; it is a multifactorial disease involving neuroendocrine dysregulation, adipose-derived inflammation, and metabolic adaptation. Adipose tissue is now recognized as an active endocrine organ, producing adipokines such as leptin, adiponectin, resistin, tumor necrosis factor-alpha (TNF-α), and interleukin-6 (IL-6) (Trayhurn & Bing, 2006).

- Leptin, produced in proportion to fat mass, regulates satiety and energy balance through hypothalamic signaling. In obesity, dogs often exhibit leptin resistance, resulting in dysregulated appetite control and reduced energy expenditure (Ishioka et al., 2007).
- Adiponectin, conversely, has insulin-sensitizing and anti-inflammatory properties, but its levels are inversely correlated with adiposity.
- Chronic inflammation associated with adiposity contributes to insulin resistance, hepatic lipid accumulation, and reduced metabolic flexibility.

In addition to pathophysiologic alterations, obesity exacerbates mechanical stress on joints, impairs thermoregulation, and predisposes to comorbidities such as diabetes mellitus (in predisposed breeds), pancreatitis, and cardiovascular compromise.

## 3. Nutritional Principles for Weight Reduction

### 3.1 Energy Restriction

The foundation of obesity management is establishing a negative energy balance to facilitate mobilization of stored triglycerides. Energy intake should be based on the Resting Energy Requirement (RER) of the target body weight. Daily caloric intake for weight loss is typically prescribed at 60–80% of RER, with individualization based on breed, age, activity level, and comorbid conditions (German et al., 2010).

### 3.2 Macronutrient Modification

Nutritional interventions should not solely restrict calories but must optimize macronutrient composition to enhance satiety, maintain lean mass, and support metabolic homeostasis.

#### 3.2.1 Protein

High-protein diets are central to preserving lean body mass (LBM) during caloric restriction. Research indicates that dogs fed ≥27% crude protein (dry matter basis, DMB) during energy restriction exhibit superior fat loss and reduced muscle catabolism compared to those on lower-protein diets (Laflamme & Hannah, 2005). Protein also contributes to satiety through post-ingestive signaling via peptide YY and GLP-1.

#### 3.2.2 Fat

Dietary fat is energy-dense (9 kcal/g) and must be limited to reduce overall energy intake. However, adequate essential fatty acid (EFA) intake, including linoleic acid, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), is crucial for maintaining skin integrity, modulating inflammation, and supporting cognitive function. Therapeutic diets generally contain ≤10% fat DMB, balancing restriction with physiological requirements (Michel, 2006).

### 3.2.3 Carbohydrates and Fiber

Dietary carbohydrates are not inherently obesogenic but serve as a source of fermentable and structural fiber. Blends of soluble (e.g., beet pulp) and insoluble fibers (e.g., cellulose) have been shown to:

- Enhance satiety via gastric distention
- Reduce glycemic fluctuations
- Support colonic health through SCFA (short-chain fatty acid) production

An optimal therapeutic diet includes 5-15% total fiber DMB, favoring moderate fermentability for both satiety and gastrointestinal function (Bosch et al., 2009).

## 4. Therapeutic Diets in Obesity Management:

Therapeutic weight management diets are formulated to provide nutrient density per calorie, ensuring sufficient intake of essential nutrients despite reduced caloric provision. Vet-Pro Obesity is a veterinary-exclusive formula designed specifically for canine weight reduction, incorporating scientifically supported nutritional strategies. (See Table 1).

### 4.1 Functional Additives

- L-carnitine, a conditionally essential nutrient, facilitates mitochondrial uptake of long-chain fatty acids for β-oxidation. Its inclusion at >250 mg/kg has been associated with improved fat loss and lean mass preservation (Zicker, 2008).
- EPA and DHA, from fish oil sources, reduce adipose-derived cytokine production and may improve insulin sensitivity.

## 5. Feeding Protocols and Owner Compliance

Even the most technically sound diet will fail without proper implementation. Effective feeding management includes:

- Accurate meal measurement by weight, follow proper feeding guidelines.
- Meal feeding (2–3 times/day) over free-choice feeding
- Exercise and environmental enrichment

## 6. Monitoring and Adjustment

Monitoring progress is integral to clinical success. It involves:

- Body weight: re-evaluated every 2–4 weeks
- Body Condition Score (BCS) and Muscle Condition Score (MCS): semi-quantitative assessment of adiposity and musculature
- Rate of weight loss: ideally 1–2% per week; if plateauing, caloric intake or physical activity must be re-adjusted

## 7. Conclusion

Obesity in dogs is a complex, multifactorial condition requiring a multimodal, science-based therapeutic approach. Nutritional management forms the

**Table 1 : Comparative Summary with Evidence-Based Diet Principles** (Laflamme, D. P. (2006)

| Nutritional Feature | Scientific Recommendation | Vet-Pro Obesity Dry |
|---|---|---|
| High Protein to Calorie Ratio | Maintains lean mass during weight loss | High protein content |
| Low Fat Content | Helps reduce overall calorie intake | Low fat content |
| L-Carnitine | Enhances fat metabolism and lean mass | Included |
| Choline & Lysine | Support liver fat metabolism | Included |
| Omega-3 Fatty Acids | Aid metabolism and reduce inflammation | Included (from fish oil) |
| Dietary Fiber | Improves satiety and digestion | Natural fiber sources |
| Joint Support | Benefits joint health in overweight dogs | Glucosamine and chondroitin added to support joint health |
| Vitamins & Organic Minerals | Essential during energy restriction | Complete blend |

cornerstone of treatment, emphasizing caloric restriction, macronutrient optimization, and strategic use of therapeutic diets. Formulas such as Vet-Pro Obesity integrate clinical nutrition science with practical feeding to enable safe, effective, and sustainable weight loss. When paired with regular monitoring and client involvement, these strategies provide a robust framework for managing obesity and restoring canine health.

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# Between Patients and Pressure: Reclaiming Our Mental Space


**Dr. Mohini Subhedar**
A fellow practitioner, just figuring it out like everyone else.


As vets, we're used to juggling – clinical cases, staff management, client expectations, OPD hours, and yes, the business side too. But somewhere in that mix, many of us are running on fumes. Quietly. Constantly. And feeling like we're the only ones who are.

We entered this field to heal – not to hustle to the point of breakdown. But the current climate often feels like a race: more visibility, more services, more opinions, more pressure. The result? Burnout, anxiety, and a silent competitiveness that creeps into friendships, associations, even referrals.

And this is just one side of the story. Many of us go home to equally demanding roles – as parents, partners, caregivers to ailing family members, and caretakers of our own pets whose needs we sometimes overlook in our exhaustion. All while holding space for others and quietly carrying our own weight.

It's important to acknowledge that our seniors in the profession have seen decades of change and carry a wealth of wisdom, patience and lived the experience. They've built foundations many of us now stand on. But today's generation of vets – interns, associates, clinic owners alike – are navigating a more visibly competitive, fast-paced, and digitally driven landscape. The pressure to do more, be more, and appear more accomplished starts early and doesn't let up easily.

Rather than creating a gap between generations, this should be a reason to connect – to learn, to lean on, and to support each other. We're all facing different versions of the same storm.

How do we slow this down?

Start by drawing honest boundaries. No is a full sentence. So is “Not today.” Speak to peers not just about cases, but about coping. Share resources. Celebrate each other's wins without viewing them as threats.

Let's stop feeding the culture of quiet comparison. The vet next door is not your rival. We're all in the same storm, just with different boats.

If we shift from competition to community, we all grow. If we show up not just as professionals but as people – tired, human. Once we accept that we make space for a more sustainable version of practice.

Because healing isn't just something we offer. It's something we deserve too.

# VET-PRO®

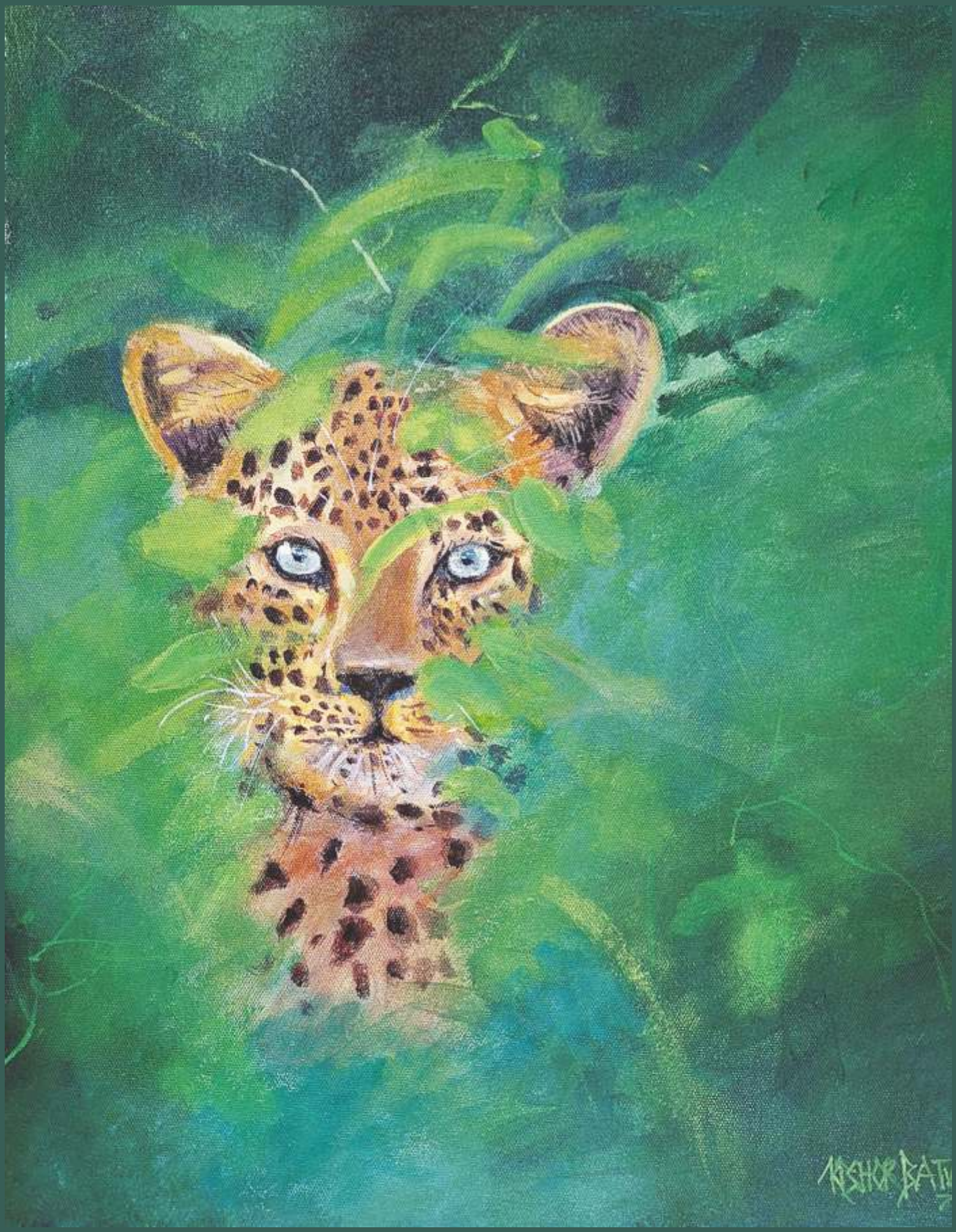
drools

Feed Real. Feed Clean.


- Low fat, thus low calorie content.
- Choline chloride, Lysine & L-Carnitine for increasing fat metabolism
- High protein: calorie ratio to maintain healthy body
- High natural fibre to satisfy appetite & a healthy digestive tract.
- Yucca extract helps to reduce stool odour.

SCAN TO KNOW MORE

# Painting of Leopard by PPAM Member Dr. Kishor Batwe



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