



# GOA VET

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**THE GOA VETERINARY ASSOCIATION**

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## ANTIBIOTIC RESISTANCE: WHERE IS INDIA HEADING?

Antibiotic resistance is a matter of serious concern in developing nations, including India, where the burden of infectious disease is high and healthcare spending is pitifully low, standing at merely 1.2% of the GDP. The country has one of the highest bacterial disease burdens in the world.

The rising antibiotic resistance is a serious threat to human health in India. A large number of common infections such as pneumonia, tuberculosis, gonorrhoea, and salmonellosis – are becoming difficult to treat as the antibiotics used to treat them become less effective. Babies are the worst affected in a country with a very high infant mortality rate. Drug resistance has become a dangerous menace in India. The question is, why, and most importantly, how to combat it.

### What is antibiotic resistance?

Antimicrobial agents (such as antibiotics, antivirals and antimalarials) are used to treat infections caused by a variety of microorganisms (like bacteria, viruses, and some parasites). These magic bullets act specifically against the microorganisms causing no harm to the host tissues and cells. However, microorganisms develop ways to outshine these agents by developing resistance against them.

### How antibiotic resistance arises in the bacteria?

Antibiotic resistance may be a natural property in certain types of bacteria or may arise due to genetic mutation, or by one bacteria genetically acquiring resistance from another (horizontal gene transfer). The fundamental mechanisms of bacterial resistance to antibiotics include the enzymatic degradation of antibacterial drugs, alteration of bacterial proteins that are antimicrobial targets, and changes in membrane permeability to antibiotics (either preventing entry of antibiotic inside the bacteria or expelling out the antibiotic taken in via membrane-bound efflux pumps). Bacteria also form biofilms (extracellular polysaccharide coatings around them which protect them from antimicrobial action). Susceptible bacteria may also enter into a dormant or persister stage allowing them to tolerate the effect of the antibiotic.

### Causes of antibiotic resistance in India

Antibiotic-resistant bacteria circulate in populations of human beings and animals, through food, water and the environment, and transmission is influenced by trade, travel and both human and animal migration. The misuse and overuse of antibiotics are accelerating this process. Many Indian doctors prescribe antibiotics for the simplest of infections, and worse is the erratic pattern of usage by the patients. Not conforming to the doctor's instructions to complete the course of the antibiotic – be it three, six or ten days – most of the people stop taking the medicine abruptly, the moment they feel a little better. This lack of awareness, prevalent in almost every other household in India, is a leading cause of the rampant spread of antibiotic resistance. At the same time, overuse of antibiotics can do you more harm than help.



## Antibiotic resistance can come from our plate

Antibiotic resistance also plays a crucial role in animal husbandry. Subtherapeutic doses of antibiotics are used to promote growth or prevent infections in healthy animals (dairy cattle, poultry and swine) and in aquaculture (fish farming). This provides the ideal condition for selection of resistant bacteria and spread of resistance by horizontal gene transfer. Such meat products when consumed by us, lead to the spread of resistant bacteria in human microbiota.

### Steps taken to combat antibiotic resistance

- The Government of India has taken a series of initiatives to tackle the growing AMR. Every individual should, therefore, contribute to curbing antibiotic resistance by following some simple rules:
- Only use antibiotics when prescribed by a certified health professional. Restrict buying antibiotics over-the-counter (OTC) without a prescription.
- Never demand antibiotics if your doctor says you don't need them.
- Always follow your doctor's advice when using antibiotics. Never leave the antibiotic course in between
- Never share or use leftover antibiotics.
- Choose foods that have been produced without the use of antibiotics for growth promotion or disease prevention in healthy animals.

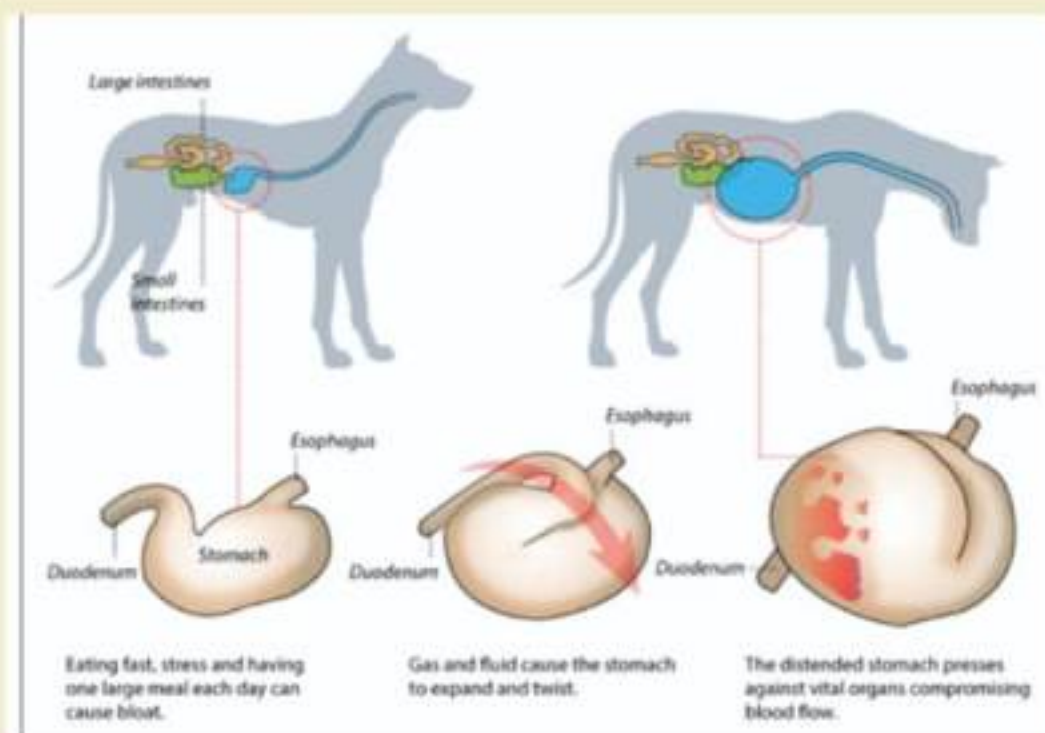
**- Dr Ransley Caldeira**  
Veterinary Officer

## A PRACTICAL APPROACH TO MANAGEMENT OF GASTRIC DILATION VOLVULUS (GDV) IN PETS UNDER FIELD CONDITIONS

Acute gastric dilation with or without volvulus has been a frequent cause of high morbidity and mortality in pet animal practice since decades. It is characterized by rapid and significant gaseous distention of the stomach accompanied with cardiorespiratory dysfunction (Slatter, 2003).

There are a number of factors which have been recognised as the cause of this life-threatening condition such as age, breed, sex, body conformation, weight, nasal mite infestation, diet composition, feeding schedule, feeding behaviour etc. In a retrospective study of the incidence of GDV reported at the Department of Surgery and Radiology, Bombay Veterinary College, it was noted that most of the cases of GDV were noted in large breed dogs such as Great Danes, Alsatians, Bull mastiffs, Pomeranians etc. and more so during the Diwali period which coincided with the wedding season.

### Pathophysiology:



**A schematic representation of the pathophysiology of Gastric Dilation with Torsion**  
(Image: Courtesy, Cindi Bossart)

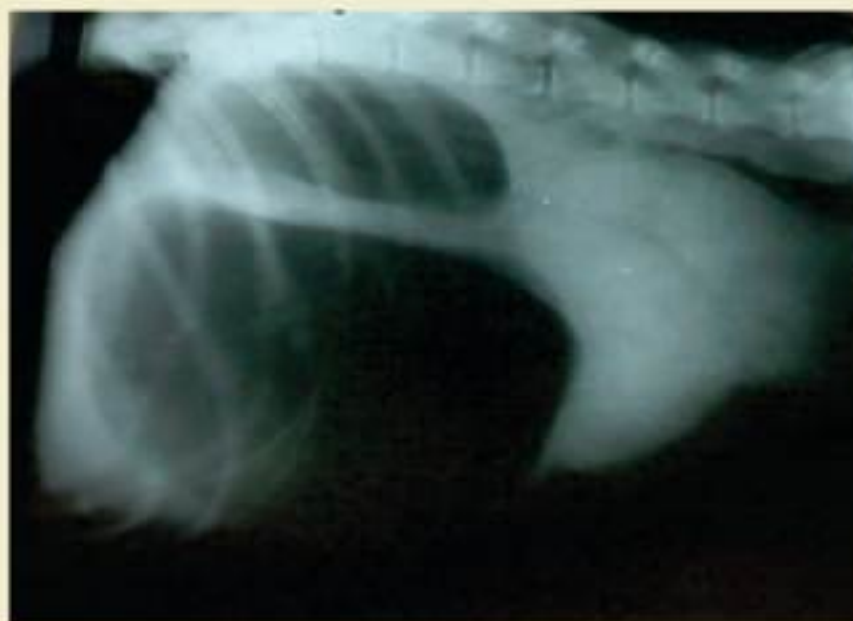


## Signs and Symptoms:

In a large number of cases, owners report, frothing from the mouth with the pet making numerous unsuccessful attempts at vomiting, retching with a gradual increase in the size of the abdomen over a period of few minutes to 2 hours. These episodes are usually noted by vigilante pet owners after feeding especially in cases where the dog has been fed on a sumptuous meal of rice, chapati, and various items during a family function or after excessive intake of dry pet foods. An animal initially appears anxious, looking or biting at the abdomen, assuming the praying posture or stretching the abdomen. As the severity increases the animal is weak, recumbent and breathing heavily.

## Diagnosis:

The diagnosis of GDV is made on history, signs and symptoms followed by physical examination accompanied with radiography if available. A typical double bubble appearance of the stomach on radiograph confirms the incidence of gastric dilation.



Tissue density separating the stomach into two distinct gas field compartments

Right lateral Radiograph of the abdomen showing a typical Double-bubble appearance of the stomach

## Management of GDV:

GDV management can be divided into various phases.

**Phase 1:** The owner reports about the signs such as slight discomfort and distention of abdomen. During this phase, the owner should be instructed to keep the dog calm and quiet and to give oral antacids (Gelusil, digene etc.) along with carmicide liquid. During this phase the dog may recover without developing GDV.

**Phase 2:** There is continuous distention noted with increased levels of discomfort and retching. The dog should be taken to the nearest vet as the release of the distention may relieve the discomfort. The patient's condition is stabilized by administration of isotonic fluids preferably Ringer's Lactate (90 ml/kg/ hour), or hypertonic 7% saline (4 to 5 ml/kg over 5 to 15 minutes), or hetastarch (5 to 10 ml/kg over 10 to 15 minutes) or a mixture of 7.5% saline and hetastarch (dilute 23.4% saline with 6% hetastarch until you have a 7.5% solution; administer at 4 ml/kg over 5 minutes) is administered. Broad-spectrum antibiotics (e.g., cefazolin, ampicillin plus enrofloxacin) should be administered. If the animal is dyspnoeic, oxygen therapy may be given by nasal insufflation or mask. Gastric decompression should be performed by stomach tube or insertion of a large bore needle while shock therapy is initiated.

**Phase 3:** In this phase the patient is very restless (gastric volvulus), whining & panting, salivating copiously, tries to vomit every 2 - 3 mins, stands with legs apart and head hanging down, spleen becomes engorged gums dark red shock begins to develop heart rate 80 - 100 beats/min, temperature raised (104°F).

In this phase stabilizing the patient's condition is the initial objective by administration of isotonic fluids (90 ml/kg/ hour), hypertonic 7% saline (4 to 5 ml/kg over 5 to 15 minutes), hetastarch (5 to 10 ml/kg over 10 to 15 minutes) or a mixture of 7.5% saline and hetastarch (dilute 23.4% saline with 6% hetastarch until you have a 7.5% solution; administer at 4 ml/kg over 5 minutes) is administered. Broad-spectrum antibiotics (e.g., cefazolin, ampicillin plus enrofloxacin) should be administered. If the animal is dyspnoeic, oxygen therapy may be given by nasal insufflation or mask. Surgery should be performed as soon as the animal's condition has been stabilized, even if the stomach has been decompressed. Rotation of an undistended stomach interferes with gastric blood flow and may potentiate gastric necrosis. Upon entering the abdominal cavity of a dog with GDV, the first structure noted is the greater omentum, which usually covers the dilated stomach. Intra operative



manipulation of the cardia usually allows the tube to be passed into the stomach without difficulty. If adequate decompression is still not achieved or an assistant is not available, a small gastrotomy incision can be performed to remove the gastric contents, although this should be avoided if possible. Gastropexy techniques such as Muscular flap (incisional) gastropexy or circumcostal gastropexy or tube gastropexy can be performed to prevent the recurrence of this life-threatening condition in pets.

**Conclusion:** Gastric dilation with or without volvulus can be a fatal condition in pets. Quick recognition of the clinical signs and symptoms can help in managing this condition without much problem. However, in cases with progressive signs of deterioration, surgery should be performed at the earliest to save the pet. Prophylactic gastropexy either by open method or laparoscopically assisted can be done in large breed deep chested dogs to prevent such episodes in pets.

**Khandekar G. S.<sup>1</sup> and S. D. Tripathi<sup>2</sup>**

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## GOOD PARENTING

Good parenting is a very important and delicate job for the future better society. It has to be executed with a mixture of love, care, firmness and authority. Human values and good habits have to be inculcated in children at young age. Parents face many challenges in this process. Most common being Child doesn't listen, Addiction to mobile/ TV and other electronic gadgets. Lack of appetite, can't focus or pay attention for a long time.

**Sri Sri Ravi Shankarji offers some solutions to these challenges.**

A child may not listen to what the parent says but He/she will definitely copy parents. If you have set a particular rule for the child ex. He/she can watch TV for only half an hour per day. And if mother watches lot of soap operas the child is not going to listen. No point in preaching something which you don't practice.

Lack of appetite and lack of focus may be because of wrong food habits and no physical exercise. Avoid junk foods and aerated cold drinks, it gives a sense of satisfaction and is addictive. Foods high in sugar are to be avoided for health reasons and also because it decreases the ability to concentrate and focus.

Today's children lack physical activities and outdoor play. Encourage children to exercise daily. It could be in the form of yoga, swimming, dancing or any other form which the child enjoys. It will ensure good physical strength and a healthy appetite.

Children have high energy and this energy has to be channelized in the right direction. If not it may lead to attention deficiency. The child will not be able to sit for any activity for a long time.

Art of living offers wonderful workshop "KNOW YOUR CHILD" of 2 & ½ hours duration. Parenting skills are discussed in detail in this workshop. This Can be organised by anyone anywhere for the betterment of the society. We also offer programs like Utkarsha Yoga (age group 08 to 12 Yrs.), Medha Yoga ( age group 13 to 18 years )



**Dr. Reshma Bale**

**Faculty Art of Living**

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# VAGINAL LEIOMYOMA IN A GERMAN SHEPHERD BITCH

## INTRODUCTION

- Tumours of the female reproductive tract are classified as those arising from the ovaries and those derived from the tubular portion of the genital tract (Withrow and Susaneck, 1986)
- Differentiation of these tumours into benign and malignant is necessary and also to differentiate them from other adaptive responses of the tissues such as hyperplasia or hypertrophy
- Leiomyoma is a frequently observed tumour of the vagina of the bitch and a similar tumour is also observed in the uterus (Schlafer and Miller, 2007)

## GROSS FINDINGS

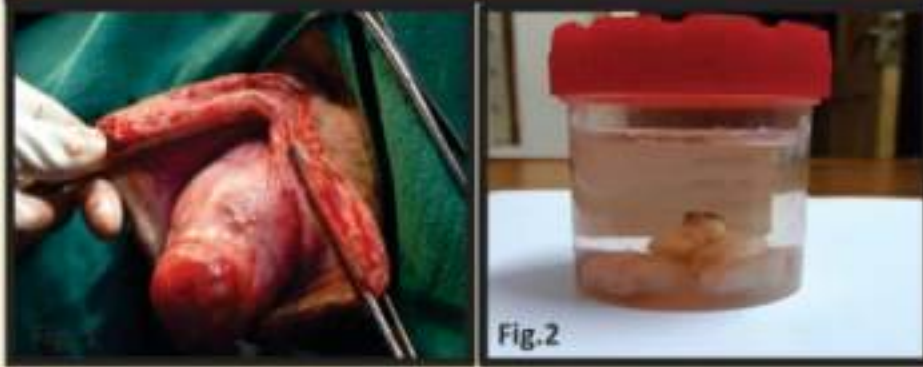


Fig.1 : Mass attached by a stalk to the vaginal wall exactly cranial to clitoris and caudal to cervix. Fig.2 :The surgically excised tumour placed in a ten per cent neutral buffered formalin container

## MATERIALS AND METHODS

- The formalin fixed tissues were dehydrated through ascending grades of alcohol and cleared in xylene before being embedded in paraffin for blocking
- Five-micron thick sections were taken on clean glass slides coated with Mayer's albumin in a water bath
- The mounted sections were dried before being stained by routine Haematoxylin and Eosin stains and permanent mounts were made by cover slipping with DPX
- Special staining of similar sections was done using Masson's trichrome method (Suvarna et al., 2018)

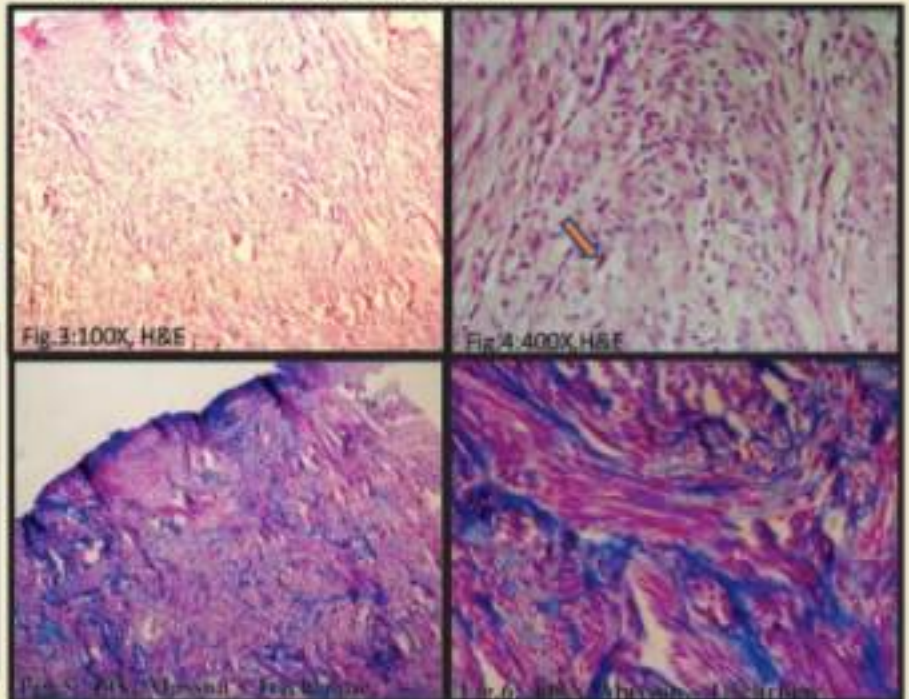
## MICROSCOPIC FINDINGS

- Fig.3: Densely packed spindle shaped cells with indistinguishable cytoplasmic borders arranged in broad interlacing fascicles



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- Fig. 4: Homogenous population of densely packed spindle cells with blunt ended (cigar shaped) nuclei
- Fig.6 and Fig.7: Special staining of tissue sections with Masson's Trichrome showing pink coloured stained muscle fibres interlacing with dark blue connective tissue stroma



## RESULTS AND DISCUSSION

- Special staining of tissue sections with Masson's Trichrome staining showed pink coloured stained muscle fibres interlacing with dark blue connective tissue stroma which gave a confirmatory differential diagnosis of leiomyoma over connective tissue fibroma
- Since this case was presented as a recurrent case of leiomyoma, it may be concluded that hormonal influence may have contributed to the recurrence and thus ovariohysterectomy may be suggested

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Release of June 2018 Issue of Goa Vet Bulletin

### WALKING WINS

A Person who walks at least 1 hour a week has  
 Nearly 40% Reduction in Death from all Causes.  
 Walking Decreases the Risk of Developing Diabetes,  
 Hypertension, Heart Disease and Obesity.  
**AVOID JUNK FOODS**

### DISTANCE AND TIME

Age 40 and below - 1 km in less than 8 minutes.  
 Age Group 40 to 45 - 1 km in 8 to 8.5 minutes.  
 Age Group 45 to 50 - 1 km in 8.5 to 9 minutes.  
 Age Group 50 to 55 - 1 km in 9 to 9.5 minutes.  
 Age Group 55 to 60 - 1 km in 9.5 to 10 minutes.  
 Age Group 60 and above - 1 km in 11 minutes.  
**I DO REGULAR EXERCISE DO YOU ?**  
 250 Mts.

### IRISH PHILOSOPHY

There are only two things to worry about  
 either you are well or you are sick.  
**If you are well,**  
 then there is nothing to worry about.  
**If you are sick,**  
 there are two things to worry about.  
 Either you will get well or you will die.  
**If you get well,**  
 there is nothing to worry about.  
**If you die,**  
 there are two things to worry about.  
 Either you will go to heaven or hell.  
**If you go to heaven,**  
 there is nothing to worry about.  
**But if you go to hell,**  
 you'll be so damn busy shaking hands  
 with your friends,  
 You won't have time to WORRY!!  
**SO WHY WORRY?**



# TWINNING IN DAIRY CATTLE

Twinning in dairy cattle is an unavoidable outcome of reproduction and is undesirable because it reduces the overall profitability of a dairy operation through negative effects on cows calving twins as well as on calves born as twins. Cows calving twins are at greater risk for many periparturient reproductive and metabolic disorders than non twinning herdmates and incidences of abortion, stillbirth, neonatal calf mortality and reduced birth weight are greater among twin compared with singleton calves. Twinning is a complex trait with multiple causative factors and empirical evidence supports a role for both genetic and environmental risk factors in cattle. Risk factors for twinning include genetics, season, parity, ovulation rate and milk production. The observation that twinning has increased in the dairy cattle population over time suggests a concurrent change in one or more of these causative factors during this same period. At present, dairy farmers and their consultants are ill prepared to make sound- management decisions to mitigate the negative effects of twinning on their operations because of a lack of applied scientific data on management strategies for periparturient dairy cows carrying twin fetuses. A clear understanding of the factors responsible for twinning is essential for future development of strategies to manage twinning in dairy operations.



On average, twins happen in dairy breeds around 5% of the time and only about 1% of the time in beef breeds. On our farm we get average 10-15% twin rate. This gives me plenty of chances to take cute twin photos and also lots of headaches. I've seen lots of confusion about twin calves in comments online, so I thought I'd share some facts about twin calves

Yes calves are cute and while it would seem like a good thing to get a bonus calf, when you look at the big picture,

twins can be more of a bummer than a bonus. While sheep, goats and deer often have twins and even triplets, a cow is made to carry one calf at a time. On our farm we check our cows for pregnancy around 30 days after they have been bred and then again when they are 60-100 days pregnant. Even at the start of pregnancy, twins can cause issues. The rate of abortions (which is what a miscarriage is called in cattle) is higher in twin pregnancies than single pregnancies. It is not uncommon for us to find twins at the 30 day check and then find that one calf or both calves have died at the next pregnancy check. It is also more likely for a cow carrying twins to lose the pregnancy later in gestation. Cows carrying twins tend to calve prematurely, causing problems with the calves not being fully mature.



A cow having twins almost always needs help calving. You can't blame her, trying to get two heads, two bodies and eight legs through one hole in an orderly fashion is no easy task. We watch all of our cows closely for signs of problems during labor but cows are horrible about calling their farmer when they go into labor at 3 am and need help. Even when we are there to help, sometimes one or both calves dieduring birth because of complications.

To top off all those reasons, after having twins a cow often has health issues. Having twins leads to more retained placentas and uterine infections. Carrying and growing two calves takes a toll on a cow. We do our best to keep all of our cows healthy, twins work against us.



When a set of twins is born and one is a bull calf and the other is a heifer calf, more than 90% of the time the female is infertile. The infertile female twin is called a freemartin. This happens because early in embryonic development it's common for the separate embryos to fuse and share the same blood supply. The hormones that the male fetus produces can cross to the female fetus and causes reproductive tract abnormalities. A freemartin heifer will carry a Y chromosome instead of the typical XX chromosomes of a female.

There are a few ways you can check to find out if a heifer is a freemartin, only one of them is something you can describe in public without people looking at you weird. Since a freemartin's reproductive tract isn't usually formed correctly, you can start with a physical exam. It's pretty common for a freemartin to have a shorter vaginal canal, so a quick measurement is a good place to start. You can read more about that online . You can also keep a heifer until she is of breeding age and see if she shows signs of cycling normally. However a freemartin can still show signs of being ready to breed even if she's not able to carry a calf. Nature is silly that way.

**Dr. Heitor Faleiro**

## LASER THERAPY FOR COMPANION ANIMALS

Veterinarians have been using different forms of alternate medicine apart from allopathic for the benefit of our pets and to improve the quality of their life. Homeopathy, Ayurveda, acupuncture etc are commonly used in practice, laser therapy is one such science recently introduced in our field. Laser therapy is also called PHOTOBIO-MODULATION. To put it in simple words laser therapy is application of light to living beings to improve health and cure ailments.

Human doctors have been using this system of treatment widely; extensive research has produced evidence in humans, to support use of laser therapy in several conditions. Veterinarians today are using laser therapy in companion animals with or without other supportive treatments to enhance the quality of life for our furry friends. It has been proved without doubt, that low level lasers are intended to have biological beneficial effects on tissue without causing damage.

Laser therapy can be used in the below mentioned ailments:

- 1) Acute and chronic injuries.
- 2) Sprains and strains
- 3) Lick granulomas
- 4) Musculoskeletal abnormalities
- 5) Nerve damage injuries
- 6) Osteoarthritis and swellings due to back disc problems
- 7) Aural haematomas, otitis acute and chronic.
- 8) Elbow hygromas and perianal fistulas
- 9) Abdominal disorders
- 10) Aortic saddle thrombus.



It also helps to regenerate nerve tissues and hasten repair post surgeries. It has been observed that dogs and cats find laser therapy relaxing and warm and tend to enjoy the treatment.

The design of the treatment and the intensity of light used totally depends on the ailment and the veterinarians judgment. FDA has approved class 1 to class 4 frequencies for tissue repair. Time span can vary from 5 minutes



up to 20 minutes. However it takes patience and at least 10 to 12 sessions to see certain positive changes, immediate relief does not mean the condition has fully healed.

#### HOW IT WORKS:

LASER is a painless therapy using specific wave length of light to create therapeutic effect on tissue, this increases circulation and thereby reduces inflammation, pain and swelling, thus hastening the healing process and resuming normal body functions. In minor ailments laser alone may be enough to alleviate pain and heal the problem.

#### AFTER EFFECTS:

There are some slight after effects of laser which however are temporary in nature and can be resolved.

Redness of the treated area, skin acne, colour change etc but these are temporary and will disappear after 24 hours. Heat burns however are a major risk, so avoid using high frequency waves.

Thus if used properly and judiciously this therapy can become a valuable tool for vets to successfully treat conditions both in general practice or rehabilitation centres.

#### BENEFITS OF LASER THERAPY.

- 1) RAPID PAIN RELIEF
- 2) REDUCED INFLAMMATION
- 3) NO SIDE EFFECTS
- 4) DRUG FREE AND NON INVASIVE.
- 5) SHORT RECOVERY TIME
- 6) IMPROVES QUALITY OF LIFE.



Laser therapy is a boon to certain category of patients who are a high risk for anaesthesia and surgical procedures, for e.g. geriatric patients, patients suffering from chronic ailments like kidney failure and liver failure or/and cancer. Improving the life quality and life span of such patients and giving them pain relief is of huge help. New applications and research are continuously being studied and this field will continue to grow as we learn ahead.

*Happy Birthday*

Dr. Balaji Desai	3 Dec.	Dr. Benjamin Braganza	7 Dec.
Dr. Anisha Carol Pinheiro	4 Dec.	Dr. Prashant Naik	21 Dec.
Dr. Manik Patil	6 Dec.		



**DR ACHINA JOGLEKAR**



Dr. Dattaraj Naik Pamkar being felicitated on retirement



Congratulations Dr. Pinto on promotion



Farewell to Dr. Gustav Pinto on retirement after 31 years of service, farewell by Dept. of A.H. & V.S. on 30th Nov. 2018