

THE VETERINARIAN'S APPROACH TO SURGERY : MUSINGS OF A FIELD VET

Annie Varghese

Veterinary Surgeon

Veterinary Dispensary, Sreekaryam, Trivandrum

Ten years after passing out from college after completing the post graduation in surgery, I was confronted with a case of pyometra in a 12 year labrador female. This case was presented with anorexia, polydipsia & dullness for almost 4 days. In the first day I proceeded with usual antibiotic shot B complex etc. Drips? Why? The animal was drinking water in very large quantities, however, when vomiting appeared as a symptom on the 2nd day, I became disturbed. After a few moments of thought, I decided that I had to be more serious. Hence after a 2nd thorough examination I observed the abdominal enlargement, congested mucosa, dyspnoea, and sent the blood for routine haematology and smear study, and the animal for an abdominal X ray to a nearby laboratory. With an hour and a half, the diagnosis was clear – pyometra and luckily for me, pus had started oozing in drops from the vagina. Part of the danger of the closed pyometra was reduced.

I went on to my next task. I had to apprise the owners of the seriousness of the conditions, the need for an ovariectomy, the possible outcome if surgery is not undertaken and the best possible time to conduct the surgery I informed him (Rajesh) that since the pus had started oozing, recovering the animal with drips and intensive medical treatment till it started feeding would increase the success rate after surgery. Once the blood picture revealed stability (ie fairly normal values, of course since the disease persists blood value will not be completely normal), we would plan the surgery and go ahead.

Having got the owner's confidence, we proceeded with the medical treatment for the next three days, until Topsy (our patient) started walking, eating, barking and being fairly normal. The blood picture improved and surgery was fixed for the fourth day at 11 a.m..

The instructions given to the owners were to withdraw food for 12 hours prior to surgery (last meal on previous night) and to give her a quick bath on the D.day. The owner, Rajesh was also given the consent form to fill and sign. Rajesh had quite a few doubts regarding

the post surgical period, which I patiently explained to him.

After seeing Rajesh off and completing the OP for the day, I called the interneer & attendant to prepare for the next days surgery. We checked all equipment, instruments, suture materials, IV fluids, anaesthetics scrubs etc. The surgical pack containing instruments, cotton, gauze, drapes, suture material, towels and gowns were prepared and set in the autoclave. The interneer saw to proper autoclaving and storage in an airtight bin. The operation theatre was fumigated overnight.

The next day, we completed the O.P. as early as possible and handed over to the vet in charge before moving to the theatre. We were working as a team – two vets to conduct the surgery, the interneer to attend to the anaesthesia while the attender would do the running around and other jobs. This was the team, we could salvage in the existing condition.

While the interneer anaesthetised the animal, under our guidance, we scrubbed ourselves thoroughly (with soap, Savlon and finally Povidone Iodine Scrub) and donned the sterile surgical attire [sterile gown, mask, cap, and gloves]. After anaesthetizing the animal, the interneer shaved and scrubbed the surgical site (right flank) with cetrimide solution thoroughly taking care the surgical site was not contaminated.

The surgery was completed successfully taking care not to contaminate the surgical site and abdominal cavity with any unsterile equipment or material. Following surgery and prior to complete revival. Topsy was given saline drips. The antibiotic regime was continued.

Rajesh wanted to see the removed uterus and ovaries. His wish was treated with respect and he was shown the same. After the drips were over Topsy was sent home. Rajesh was equipped with the knowledge of all possible reactions during recovery, method to care for each circumstances. Confinement was advised.

Tipsy recovered quickly showing drastic improvement each day. Daily dressing of the surgical site and antibiotic for the next 4 days was continued under our supervision.

By the end of the week, Topsy was discharged. I was overwhelmed with joy as Topsy licked my hand and walked out with her happy master Rajesh.

As I relaxed afterwards, I evaluated myself and our teams work.

Success in the Veterinarian's approach can be summed up as follows:

1. Respect the human- companion animal bond.
2. Encourage the veterinarian- client communication.
3. Dedication and compassion coupled with honesty are essential qualities of a veterinarian.
4. Understand the client and his limitations. Not all clients may be able to complete necessary treatment.
5. Educate the client regarding the disease, its outcome, its treatment and prevention.
6. Explain the proposed treatment its pros and cons. Explain the necessity of surgery and follow-up. The goal of surgery is to reestablish function as near to normal as possible. The client should make the final decision.
7. Once he makes up his mind put it down on paper by means of signing the consent form.
8. Focus on the risks involved in the surgery proposed.
9. Explain the client's responsibility in the postoperative care.

10. Be frank about payments & bills.
11. Be serious and practice asepsis. The success of surgery goes up with aseptic practices.
12. Give priority to proper sterilization of equipment, surgical attire, surgeon himself, the site of surgery and the operation theatre.
13. Work as a team as surgery is a teamwork.
14. During surgery, spectators should not handle any of the sterilized material even so as to offer help.
15. During surgery, treat every tissue with respect and handle them gently and only if necessary.
16. Always have a qualified surgeon in your team.
17. Never rush with surgery and never conduct a surgery at the owner's premises.

Conclusion

An article about the scientific method regarding sterilization or maintaining fluid electrolyte balance or sites of surgery etc. may be of use to one or two of us. However this article was submitted to give a small picture as to how veterinarians in field could approach a surgical case professionally. Teamwork and referrals are systems in which our own esteem rises up. No amount of recommendations to the Government will give a better picture of our profession. It is only what we put forward for the society to see, that will help our profession's status to rise up.



Circadian rhythms dominate all life functions

New research from Colorado State University shows that the function of all genes in mammals is based on circadian — or daily — rhythms. The study, refutes the current theory that only 10 percent to 15 percent of all genes were affected by nature's clock. While scientists have long known that circadian rhythms regulate the behavior of the living, the study shows that daily rhythm dominates all life functions and particularly metabolism. The new study presents oscillation as a basic property of all genes in the organism as opposed to special function of some genes as previously believed. Knowing about oscillation properties of genes involved in metabolism is essential for understanding how genes interact with and regulate health and disease. Colorado State University researcher Andrey Ptitsyn's new analysis of data collected through several studies establishes a baseline oscillation in 98 to 99 percent of all genes through advanced computer algorithms. Most of these genes have never been previously reported as changing their expression level in a daily cycle. Some of these genes, considered "housekeeping," have been used as a stable reference platform in gene expression studies.

"Anyone who diets, for example, knows you shouldn't eat

late, and now we are getting closer to understanding why exactly," said Ptitsyn, a researcher in the Bioinformatics Center at the College of Veterinary Medicine and Biomedical Sciences. The center is located in the Department of Microbiology, Immunology and Pathology. "We discovered that all genes have a significant change in pattern of activity — or expression — throughout the day. Every pathway of gene expression is affected by circadian rhythms, and the timing of the rhythms from each group of genes that are synchronized is important." Ptitsyn also discovered alternative short and long copies of some genes oscillating in the opposite phase. These genes are essential components of leptin signaling system, responsible for the sensation of satiety after eating. The oscillating pattern varies in different organs and determines the effect of leptin on regulation of the energy balance. Better understanding gene oscillation may provide researchers with clues for developing ways to treat people who overeat because of impaired leptin signaling. phase or timing of oscillation. Where previous studies have failed, the Colorado State study uses advanced algorithms that have the capacity to identify patterns in such a large number of genes.