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**Dr. Amrutha Prabhakaran**  
College of Veterinary and Animal  
Sciences, Pookode, Kerala, India

## Congenital diaphragmatic hernia along with ventral hernia in a Kitten: A case report

**Dr. Amrutha Prabhakaran**

### Abstract

Diaphragmatic hernia is a condition frequently met with felines, it results in severe changes in the abdominal and thoracic pressure. Rupture of diaphragm and the resultant herniation of abdominal contents into thoracic cavity leading to the entrapment of abdominal organs and respiratory compromise. Also ventral hernia is a condition in which intestine protrudes through abdominal muscles at the belly button, owing to weakness in the cavity containing it.

The article discuss about the successful surgical management of congenital diaphragmatic hernia along with ventral hernia in a one year old male kitten.

**Keywords:** Diaphragmatic hernia, ventral hernia, feline, congenital

### Introduction

A hernia is the protrusion or displacement of an organ or part of tissue outside the body cavity through an unusual opening in the cavity wall. Hernia parts include hernial ring, sac, contents. Various types of hernia were found in both small and large animals which could be categorized according to the anatomical location such as inguinal, umbilical, diaphragmatic, femoral, scrotal, perineal hernia.

Diaphragm is a sheet of muscle that separates the abdominal and thoracic cavities. A hernia is a pathological disorder in which a part of the body project abnormally through a tear or opening into an adjacent part.

Ventral hernia occurs when a weak spot in the abdomen enables abdominal tissue or an organ protrudes through a cavity muscle area. These hernias are visibly identified by a bulge in the abdominal area. It can appear as a congenital defect at birth or develop over a period of time resulting from factors such as pregnancy, abdominal surgery or long term stress on abdominal muscles

### Case details

One month old male Persian kitten was presented to DVC Kollam with a history of herniated mass noticed at the xiphoid since birth. No evidence of pain noticed while palpating on the abdominal region. Temperature was in the normal range with pale mucous membrane. Ventral hernia confirmed by palpation. On x ray liver towards the diaphragm diaphragmatic border was not clear full length of diaphragm was not clear either in X-ray or in USG.

### Surgical management

The patient was pre surgically stabilized with a fluid therapy to avoid hypovolemic shock. The patient was prepared for the surgery by clean shaving of the surgical site with an antiseptic solution. Scrubbing of the surgical site was done with povidone iodine solution and animal was premedicated with meloxicam @0.25 mg/kg.

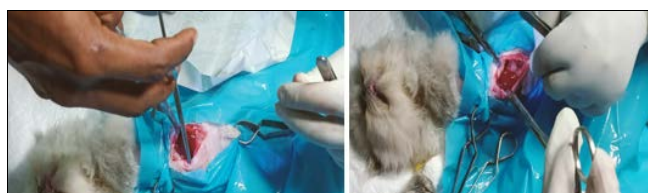
The surgical site was aseptically draped with sterile adhesive surgical drapes light sedation given by butorphanol at a dose rate of 0.2 mg/kg. Anaesthesia was maintained by injection of propofol at a dose rate of 2.5 mg/kg. Cuffed endotracheal intubation was done by using (size 4). The patient was maintained on intermittent positive pressure ventilation (IPPV) using an ampu bag. Animal was positioned in dosal recumbency. Ventral midline incision was made from xiphoid to umbilicus by using scalpel blade (number 15).

**Corresponding Author:**  
**Dr. Amrutha Prabhakaran**  
College of Veterinary and Animal  
Sciences, Pookode, Kerala, India

Ventral hernial sac opened and reduced the intestine. Manual positive pressure ventilation by using ampu bag 1L. Liver was herniated through diaphragm, liver retracted from thoracic cavity. The diaphragmatic tear was replaced by non absorbable suture material with continuous suture pattern. The intestine was replaced into the abdominal cavity, ventral hernia sutured by double breasted suture pattern. Skin sutured intradermally using (Three-Zero) polyglecaperone. The site was then dressed properly after the application of povidone iodine.



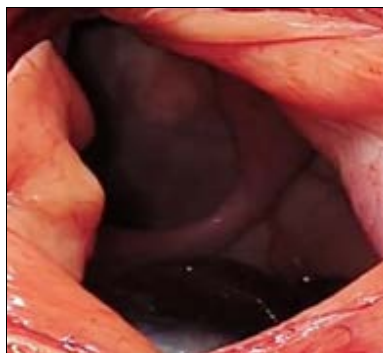
**Fig 1:** Povidone iodine applied on the surgical site



**Fig 2:** Herniation of liver



**Fig 3:** Herniation of small intestine



**Fig 4:** Heart is visible



**Fig 5:** Skin sutured

### Post-operative management

Post-operative care consisted of administration of 0.2 mg/kg Amoxicillin Sulbactam (I/V, q12hr for four consecutive days) and meloxicam 0.2 mg/kg(S/C, q24hr for two days).

Inj RL500 ml  
Sig 6 ml as I/V

### Discussion

Congenital diaphragmatic hernia along with ventral hernia in a kitten is a rare uncommon case. Its only seen in one to three month old kittens. It can be confirmed by radiograph (Lateral and Ventrodorsal) and USG. Diaphragmatic hernia along with ventral hernia here at xiphoid it would be diaphragmatic hernia. Differential diagnosis of congenital diaphragmatic hernia includes thoracic lesions such as congenital cystic adenomatoid malformations, bronchopulmonary sequestration, bronchial atresia.

### Conclusion

The above literature reports about the successful surgical management of diaphragmatic hernia and ventral hernia in a one month old male Persian kitten.

### Acknowledgement

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### Conflict of Interest

Not available

### Financial Support

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