

# SUCCESSFUL MANAGEMENT OF ACQUIRED MEGAESOPHAGUS IN A DOG SECONDARY TO HYPOTHYROIDISM AND CANINE DISTEMPER

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Megaesophagus (ME) is an uncommon condition mostly observed in middle aged to older dogs of large to giant breeds. This report describes a case of acquired ME in a Labrador dog secondary to hypothyroidism and canine distemper. The case was presented to o Teaching Veterinary Clinical Complex, Mannuthy,, with the major complaint of regurgitation immediately or a few hours after food intake. Clinical examination showed chomping of jaw, temporal twitching and the owner revealed a history of treatment done for canine distemper when animal was three-months old. Haematological and serum biochemical parameters were within normal range except lowered serum T4 (1.24µg/dL). Plain and contrast radiography confirmed the presence of severely dilated cervical and thoracic esophagus. Based on the clinico-haemato-biochemical evaluation, the condition was confirmed as acquired ME, secondary to hypothyroidism and canine distemper. The case was successfully managed with oral sildenafil and elevated feeding along with tab (orally), levothyroxine supplementation. Animal showed an uneventful recovery with complete cessation of vomiting.

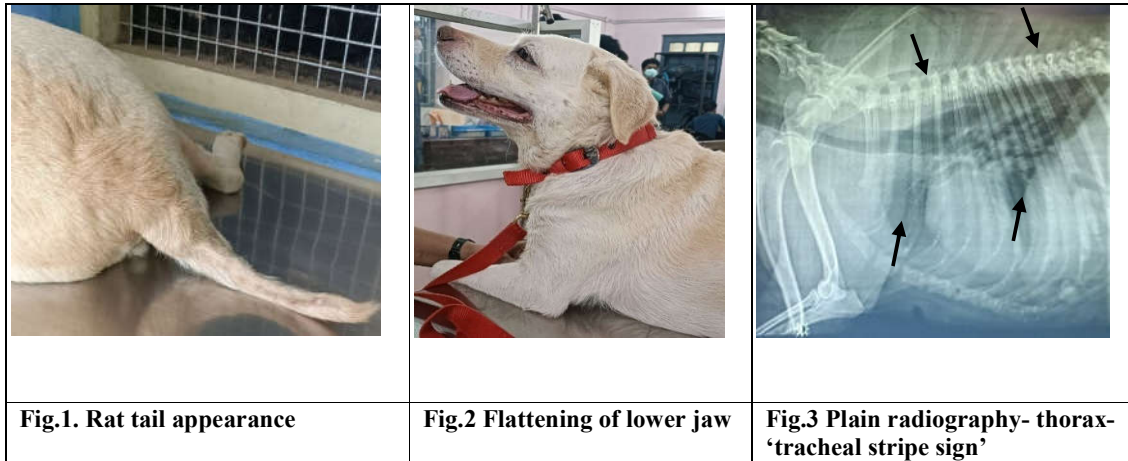
**Keywords:** Canine distemper, Megaesophagus, Sildenafil.

**ME** is a condition affecting esophageal muscle that causes reduced or absence of motility resulting in esophageal dilatation and dysfunction. Megaesophagus can be congenital or acquired due to other systemic disorders. In most of the cases, ME has no apparent cause, hence the condition can be termed as idiopathic ME. Congenital ME occurs in young dogs either as an inherited condition or secondary to developmental abnormalities in esophageal innervations, usually manifests immediately after weaning. Acquired ME occurs in adult dogs, occur secondary to any disorders which damage the nerve innervations of esophagus. Common causes of acquired ME are myasthenia gravis, hypothyroidism, hypoadrenocorticism, external obstruction of esophagus, polyneuropathy, Systemic Lupus Erythematosus, polymyositis etc. Breeds most frequently associated with congenital megaesophagus are German Shepherds, Labrador Retrievers, Great Danes, and dachshunds. Breeds most often associated with acquired megaesophagus are Labradors and Golden Retrievers, Chihuahuas, boxers, German Shepherds, Dachshunds, and Rottweilers.

## Case history, Observations and Treatment

A six year old Labrador Retriever was dog presented to Teaching Veterinary Clinical Complex, Mannuthy, with the major complaint of regurgitation of undigested food mixed with mucus within 5-10 minutes after food intake since last two week. Appetite, defecation and urination were normal. On general examination, animal showed chomping of jaw, temporal twitching, muscle wasting, rough and dry hair coat and rat tail appearance (fig. 1) and flattening of lower jaw (fig. 2). All the clinical parameters were within normal range. Haematological examination was unrevealing/ normal. Routine serum biochemical examination revealed decreased T4 (1.24 µg/dL). Lateral flow antigen test kit for canine distemper was negative. Owner revealed the history of

treatment done for canine distemper when the animal was three months old and subsequent recovery, but the post distemper neurological signs previously described still persisted. On radiographic examination of neck and thorax, presence of tracheal stripe sign (fig. 3) could be noticed. Barium swallow contrast radiography confirmed the presence of dilated cervical and thoracic esophagus (fig. 4).



The case was diagnosed as acquired megaesophagus secondary to hypothyroidism and canine distemper. The animal was treated with tab. sildenafil @ 1mg/kg PO twice daily one hour before food, tab. methylcobalamine 1500mcg @ 1 tab once daily PO, tab. levothyroxine @ 20mcg/kg once daily PO on

empty stomach and other supportive medication along with elevated feeding (fig. 5). After one month dose of sildenafil was tapered to 0.5mg/kg and discontinued after two months. After one month, animal showed significant improvement in condition with complete cessation of regurgitation.



**Fig. 4 Contrast radiography- dilated oesophagus**



**Fig.5 Elevated feeding**

## Results and Discussion

Megaesophagus is a disorder of esophageal motility resulting from abnormalities either in neural, neuromuscular junction or oesophageal muscular dysfunction, which is characterized by esophageal hypo motility and dilation, progressive regurgitation and loss of body condition as also mentioned by Fasil *et al.*, *Indian Journal of Canine Practice* ISSN: 2277-6729 e-ISSN: 2349-4174

2024. Regurgitation, a passive evacuation of fluid, mucus, and undigested food from the esophagus, is the most common clinical sign observed in megaesophagus as also reported by Datta *et al.*, 2020. Megaesophagus could be associated with certain other conditions like hypothyroidism, hypo adreno corticism, esophagitis, autoimmune diseases, heavy metal

poisoning and canine distemper as also recorded by Ko *et al.*, 2018.. Goals in the management of megaesophagus are to identify and treat the primary cause, decrease the frequency of regurgitation, prevent overdistention of the esophagus, provide adequate nutrition, and treat complications such as aspiration pneumonia and esophagitis as also elicited by Datta *et al.* 2020. Similarly Tu *et al.*(2020) reported that the sildenafil, a vasodilator, could induce smooth muscle relaxation in GI system. It could reduce the lower esophageal sphincter tone and facilitate the emptying of esophagus. The author also suggested sildenafil could also induce gastric relaxation in the fasting state and could ameliorate the regurgitation secondary to megaesophagus by reducing the contraction of stomach without affecting gastric emptying time. A case of acquired megaesophagus in a Labrador Retriever dog

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