

CASE REPORTS OF UNUSUAL UMBILICAL HERNIAL CONTENTS IN A DOG AND A CAT

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Two cases of congenital umbilical hernia, a one-year-old cat and a six-month-old dog, were presented to the Department of Veterinary Surgery and Radiology, Veterinary College, Hebbal. The decision was taken to perform herniorrhaphy for both the cases. The hernial content was found to contain spleen and intestinal loops in the cat and omentum along with liver in the dog. Both were considered to be highly unusual occurrences. Kelotomy and herniorrhaphy was performed according to standard procedures and both animals recovered uneventful. This article highlights the unusual nature of the hernial contents and the importance of timely correction of congenital umbilical hernia.

Keywords: Umbilical hernia, Spleen, Liver, Herniorrhaphy.

The abnormal protrusion of a part of an organ, or organs from their normal anatomical site through an abnormal defect is called hernia (Read and Bellenger, 2003). Failure of fusion or delayed fusion of the lateral folds (mainly the rectus abdominis muscle and fascia) at the umbilicus after normal return of the midgut (in the sixth week of gestation) from the umbilical cord in canines results in congenital umbilical hernias. (Harvey, 1992). A vast majority of umbilical hernias are genetic in nature and are the result of a polygenic threshold character, possibly involving a major gene whose expression is mediated by a breed background. Ruble and Hird (1993) studied congenital defects in puppies over a period of one year and reported the overall occurrence of congenital umbilical hernia to be 0.6% of all the animals studied. Both male as well as female dogs could have an umbilical hernia, however, it was more common in males than in females. An umbilical hernia is usually not considered a clinically serious hernia as it mainly consists of fatty tissue. The involvement of the omentum accounts for the mostly asymptomatic nature and benign course of umbilical hernia. (Chandrapuria and Somil, 2013)

However, if the omentum occasionally becomes incarcerated, it results in clinical signs that include pain and depression. (Waters *et al.*, 1993).

Case History and Observations

Case 1: A one-year-old intact male cat was presented to the Department of Veterinary Surgery and Radiology, Veterinary College, Hebbal, with the history of a mass in the ventral abdominal region and a superficial wound with blood-tinged discharge from the mass. The animal had a history of a small, uncorrected congenital umbilical hernia and the size of the mass had increased significantly over the last two days. Upon clinical examination, the mass was found to be soft, contained intestinal loops and a significant hard mass. The hernial ring was palpable. A small open wound was present at the ventral-most aspect of the mass. The animal showed no other clinical signs and was alert and active.

Case 2: A 6-month-old intact male Shih Tzu puppy was presented to the Department of Veterinary Surgery and Radiology with the history of a large soft swelling at the umbilicus since birth. Upon clinical examination, the mass was found to be soft and hernial ring was palpable.



Fig. 1. Case 1: Pre-operative preparation. The spleen is clearly visible in the herniated mass.



Fig. 2. Case 1: Hernial contents consisting of omentum, intestinal loops and enlarged spleen.



Fig. 3. Case 2: Hernial content revealed omentum and liver lobe

Surgical Treatment

Case 1: The cat was anaesthetised with intramuscular Diazepam (0.5mg/kg body weight) and Ketamine (25mg/kg body weight). Pre-operative antibiotic (Ceftriaxone at the rate of 25mg/kg body weight SQ) and analgesic (Meloxicam at the rate of 0.2mg/kg body weight SQ) were administered. The surgical site was prepared aseptically. Ventral midline incision was made over the mass, through skin, subcutaneous tissue and hernial ring. Hernial contents consisted of intestinal loops, mesentery, greater omentum and spleen. Intestinal loops and mesentery were healthy. The spleen was enlarged but showed no other lesions. Abdominal contents were replaced and the hernial sac was excised. The incision along linea alba was extended and the edges of the hernial

ring were freshened. The abdominal muscles were apposed using Polyglactin 910, No. 1-0 with simple interrupted sutures. Subcutaneous tissue was sutured using the Polyglactin 910, No. 1-0 in a simple continuous manner. Skin incision was closed using Polyamide No. 2-0 in horizontal mattress pattern.

Post-operative oral antibiotic (Cephalexin at 25mg/kg body weight) was administered twice a day for five days. Oral meloxicam was administered at the rate of 0.2mg/kg body weight for 2 days. Wound dressing was done on alternate days until suture removal.

Case 2: The animal was sedated with intramuscular Xylazine (1mg/kg body weight). Anti-cholinergic (Atropine sulphate at 0.04mg/kg body weight) was administered subcutaneously. The surgical site was prepared aseptically. Ventral midline incision was made over the mass,

through skin, subcutaneous tissue and hernial ring. Hernial contents consisted of omentum and liver. The organs were healthy. Abdominal contents were replaced and the hernial sac was excised. The incision along linea alba was extended and the edges of the hernial ring were freshened. The abdominal muscles were opposed using Polyglactin 910, No. 1-0 with simple interrupted sutures. Subcutaneous tissue was sutured using the Polyglactin 910, No. 1-0 in a simple continuous manner. Skin incision was closed with Polyamide No. 2-0 in horizontal mattress pattern.

Post-operative oral antibiotic (Cephalexin at 25mg/kg body weight) was administered twice a day for five days. Oral carprofen was administered at the rate of 2mg/kg body weight once a day for 2 days. Wound dressing was done on alternate days until suture removal.

Results and Discussion

The animals recovered uneventfully and sutures were removed 10 days post-operatively. These cases were observed to be unusual because of the presence of the spleen and the liver in the herniated mass, respectively. According to the knowledge and experience of the authors, these are rare occurrences and very few similar articles have been published. In agreement to our cases, Crowe and Archibald (1984) also observed that herniated contents were initially covered by amniotic tissue attached to the edges of the umbilical defect until minor trauma ruptured the membrane, exposing the prolapsed contents to contamination. Since Case-1 was presented as a complication of chronic

congenital umbilical hernia, it highlights the importance of correction of congenital umbilical hernia at an appropriate age.

Due to non-availability of previous publications of similar cases, the authors find it difficult to compare these cases and draw specific inferences. The authors are of the opinion that umbilical hernias must be corrected at an appropriate age to avoid further complications like injury to spleen and liver, if herniated. Radiography and ultrasonography can also help ascertain the hernial sac contents and aid the clinician with regards to taking appropriate surgical decisions.

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