

An unusual case of double abdominal large lipomas and their management in a cat

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Abstract

A 9-year old female Bengal cat was presented for intermittent vomiting and anorexia for several months with occasional flatulence, borborygmus, tenesmus and slow weight loss. On physical examination, two hardened fluctuating palpable masses were noted in the abdomen. Radiographs indicated the presence of two focal mineralized oval soft tissue masses in abdominal cavity. Ultrasonography investigation revealed the presence of hyperechoic masses with associated acoustic shadowing. The masses were removed via celiotomy, and histopathology confirmed the masses as large lipoma. There was a dramatic decrease of intermittent vomiting and anorexia after 15 days following surgery. The cat recovered and regained normal weight after 2 months of surgery.

Key words: Cat, Celiotomy, Lipoma

Highlights

- Successful surgical removal of two abdominal masses by celiotomy.
- The cat was anaesthetized successfully with xylazine hydrochloride and ketamine hydrochloride.
- Abdominal masses were diagnosed as large abdominal lipomas.
- Intermittent vomiting with anorexia associated with abdominal lipomas is surgically treated.

Lipomas are noncancerous or benign fat-filled tumours (Tong *et al.*, 2020) and so is ubiquitous (Sastry, 2001). The presence of lipomas may be the presenting feature of a variety of syndromes (Putra and Al-Ibraheemi, 2019). Generally, these are located subcutaneously, but can develop anywhere in the chest or abdomen in feline (Nickel and Mison, 2011). These types of soft, slow-growing, freely movable tumours are easily manipulated in aged cats. Lipomas may be removed easily. Sometimes long pedunculated lipomas may also be found in the abdomen (Sastry, 2001). A 9-year old female Bengal cat weighing 2.5 kg was presented to the Veterinary Clinical Complex, West Bengal University of Animal and Fishery Sciences, Kolkata, with a history of intermittent vomiting

and anorexia for several months with occasional flatulence, borborygmus, tenesmus and slow weight loss. On physical examination, subcutaneous congestion with two hardened fluctuating palpable masses was noted in the abdomen, and the oral mucosa was pale.

Complete blood count including haemoglobin concentration, total erythrocyte count (TEC), total leucocyte count (TLC), packed cell volume (PCV) and platelet count were estimated as per standard method (Jain, 1986) and showed signs of anaemia, thrombocytopenia and leukocytosis (Table 1) (Ettinger and Feldman, 2005). The clinical parameters like temperature (100.5°F), heart rate (160 beats/minute), respiration rate (28 breaths/minute), arterial blood oxygen saturation or SPO₂ (98%) were recorded.

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Table 1. Preoperative and postoperative haematological parameters

Parameters	Preoperative condition	Postoperative condition
Haemoglobin	9.8 g/dL	10.9 g/dL
Total erythrocyte count or TEC	$5.28 \times 10^6 / \mu\text{L}$	$7.16 \times 10^6 / \mu\text{L}$
Total leukocyte count or TLC	21,000/ μL	19,000/ μL
Packed cell volume or PCV (%)	27.6	32.4
Platelets count	58,000/ μL	59,000/ μL

The radiographic sign showed the presence of two focal mineralized oval soft tissue masses in the abdominal cavity (Fig. 1). There was distinct eggshell-like rims encapsulating the lesions. Ultrasonography investigation revealed the presence of hyperechoic masses with associated acoustic shadowing.

On the basis of radiological and sonographic findings, two distinct encapsulated soft tissue masses in the abdominal cavity were detected. Considering history, clinical and haematological examinations, celiotomy was suggested.

The cat was fasted for 12 hours prior to surgery. Anaesthesia was achieved by administration of xylazine hydrochloride @ 2 mg/kg followed 10 minutes later by ketamine hydrochloride @ 10mg/kg, both intramuscularly. An endotracheal tube was placed to visualize the glottis. Doppler blood pressure measurements were observed intermittently, and continuous electrocardiographic and temperature readings were monitored. The cat was placed in dorsal recumbency, and the surgical site was properly shaved and disinfected. Preoperative antibiotic inj cefotaxime @ 25 mg and perioperative intravenous crystalloid fluids were supplemented during the surgery.

After confirming the location of the masses by palpation, a cranial midline incision was given behind the xiphoid cartilage after local infiltration with 2% lidocaine along with the subcutaneous area of the skin incision. The subcutaneous tissues were gently dissected, celiotomy was performed where the masses were found as it was easily manipulated, and isolation of the masses was performed from the abdominal cavity as no such adhesions were

found. There was no single tissue attachment or vascular supply for the masses, so no further ligatures were required in the abdominal cavity during the removal of the masses. Macroscopically they were enlarged tissue masses (Fig. 2). The abdominal wound was closed with No. 3-0 polyglactin 910 suture followed by suturing of subcutaneous tissue and skin.

Postoperative care included IV fluid therapy with 80 mL of ringer lactate solution twice daily, inj. cefotaxime @ 25 mg twice daily and susp. meloxicam 0.5 mg/kg PO BD for five days. The cat recovered completely without complications of the surgical wound. The animal was examined every fifteen days to observe the recovery process. There was a dramatic decrease of intermittent vomiting and anorexia after 15 days following surgery. All the haematological parameters returned to almost normal values after recovery (Table 1). Complete blood count showed no sign of anaemia and leukocytosis (reference range 5,500–19,500/ μL) with slightly increased platelet count postoperatively. Normalization of weight was noticed two months after surgery. Both the masses were soft in consistency, similar to that of adipose tissue. Based on anatomical location and histological features of the neoplastic lesion, the tumour was diagnosed as large abdominal lipoma (Fig. 3). Histopathology tissue showed proliferation of mature adipocytes characterized by a large peripheral nucleus, mostly isoformic in nature.

Though lipomas are infrequent in cats, cutaneous, intrathoracic (Nickel and Mison, 2011) and lipoma of urinary bladder are reported (Khodakaram-Tafti *et al.*, 2011). Body

Double abdominal lipomas in a cat

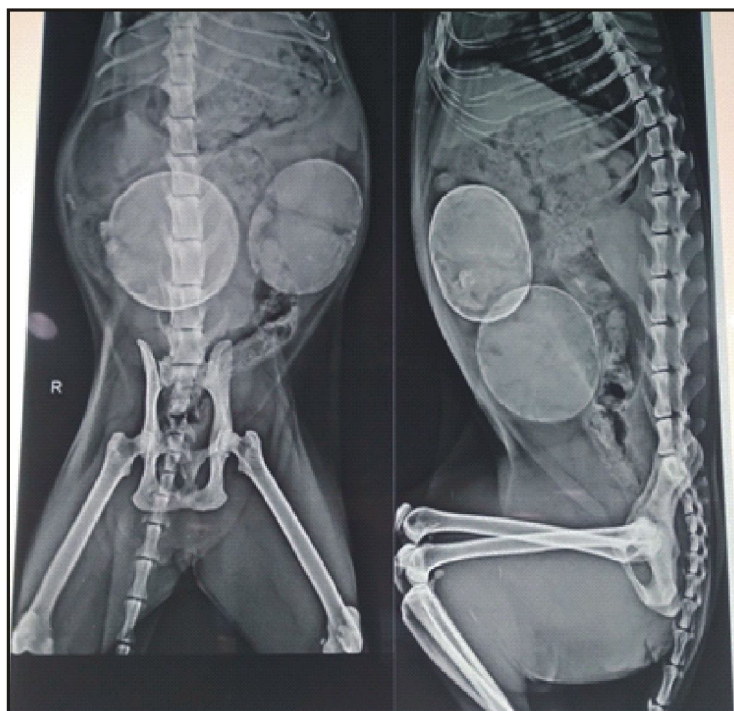


Fig. 1. Xray showing double abdominal lipomas in cat



Fig. 2. Two abdominal lipomas in gross

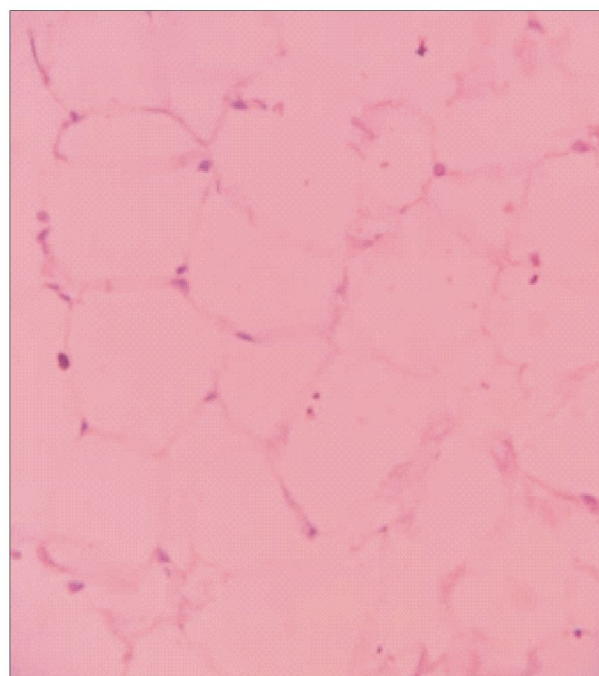


Fig. 3. Histopathologically tissue showed proliferation of mature adipocytes characterised by large peripheral nucleus mostly isoformic in nature. There were paucicellular fibrous septa

cavity lipomas causing abdominal distension are found in canine (Mayhew and Brockman, 2002). A feline lipoma can be diagnosed with a physical examination along with an abdominal radiographic examination, ultrasonographic examination or both. As pedunculated lipoma can cause entrapment and torsion of the intestine leading to necrosis, colic and death, celiotomy was advised. Mayhew and Brockman (2002) reported successful surgical management of abdominal lipomas with complete resolution of signs after surgical resection of tumour and recurrence of lipoma in one case after two years of surgery which was treated successfully by surgical resection. Macroscopically the lipoma ranges in size from small nodules to big masses (Sastry, 2001) with

firm or soft consistency (as found here). Capsulation may be evident with an oily surface on section, which was evident in this current case. So intermittent vomiting, continuous flatulence, borborygmus, tenesmus and slow weight loss with anorexia associated with abdominal lipomas are surgically treated successfully by celiotomy.

Conflict of interest: Authors have no conflict of interest in this study.

Author's contribution: FM: Conception, design and data analysis; DM and MM: Provision of study materials; Manuscript writing and final approval of manuscript were made by all authors.

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