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Surgical management of cystocele in cat

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Abstract

A cystocele results from a break in continuity of the pubocervical fascia hammock-like support of the bladder. Abdominal hernias generally occurs secondary to trauma, such as vehicular accidents or bite wounds; however, they occasionally occur as congenital lesions. This report involves a case of one year old female cat that was presented with a history of swelling at the inguinal region (Ventral hernia) and its successfully managed by surgical intervention at Teaching Veterinary Clinic Shuhama, Alusteng.

Keywords: cat, cystocele and hernia

Introduction

External abdominal hernias are defects in the external abdominal wall that allows protrusion of visceral content. It may involve the abdominal wall anywhere other than the umbilicus, inguinal ring, femoral canal, or scrotum. Abdominal hernias may be defined according to their location (i.e., ventral hernia, prepubic, subcostal, hypochondral, paracostal, or lateral) (Fossum, 2007)^[4]. Palpation can help in tentative diagnosis but imaging modalities especially ultrasound guidance largely differentiates different masses (cyst, hematoma or hernia) and detects the presence of hernial contents with more accuracy (Lassandro, 2011)^[5].

Case presentation

A case of one year old female cat was examined initially by palpation to discern the contents of hernia and to locate the abdominal defect. On aspiration, a straw coloured fluid was aspirated and tentatively detecting the presence of urinary bladder and ultrasound examination revealed a swollen anechoic fluid-filled regular structure therefore confirming the diagnosis. Surgery was performed under xylazine (1mg/kg) as preanesthetic and induction of anesthesia was performed under diazepam (0.4mg/kg) and ketamine (5mg/kg). Urinary bladder was herniated (cystocele) through a small rent of one finger diameter which was repositioned back through the rent and was subsequently closed by simple interrupted suture (Vicryl 2-0). Subcut tissue and muscle layer were sutured by natural absorbable suture material (Catgut 2-0). Skin was left unsutured to heal by second intention.

Cat was sedated with xylazine (1mg/kg IV) and effects were seen within 5 minutes of injection. Diazepam (0.4 mg/kg) and ketamine (0.4 mg/kg) together (IM) were used for induction of anesthesia. Hydration and electrolyte abnormalities were corrected before the surgery by administering 70 ml of Normal saline (IV). Before the onset of surgery, respiration and heart rate were 11 breaths/min and 108 beats/min respectively. The cat was placed in dorsal recumbency and the surgical site was prepared aseptically (Fig 1). A ventral midline abdominal skin incision (Fig 2) was given to assess the extent of visceral herniation and blunt dissection of subcut and all the associated muscles were carefully incised/ separated to visualize the underlying structures. Hemostats were used to arrest the bleeding from associated vessels. Severe trauma which has resulted adhesions between the abdominal wall and urinary bladder was observed during surgical procedure. All the adhesions were carefully separated and urinary bladder was isolated from these adhesions. The rent through which the urinary bladder was herniated was about one finger diameter. The urinary bladder was carefully repositioned to its normal anatomic position and the rent was closed by simple interrupted sutures (Vicryl 2-0) (Fig 3A and B), muscle layer and subcut were sutured separately by following the basic principles of surgery (Catgut 2-0). In between the surgery respiratory and heart rates were observed continuously at regular intervals of time which was found to be a little low during the course of surgery about 9 r/min and 90 b/min respectively. The case was monitored for any post-operative complications.

**Fig 1:** Cat in dorsal recumbency**Fig 2:** Ventral midline abdominal skin incision**Fig 3:** (A and B) Repositioning of urinary bladder and closure by simple interrupted sutures (Vicryl 2-0)

Results and Discussion

A case of herniation needs to be confirmed by diagnostic imaging techniques (Lassandro, 2011)^[5] and here in this case, we diagnosed the case by ultrasound examination. Owner was advised to bring the animal off fed for the surgery and the very next day surgery was performed to reduce the herniated part back to its normal anatomic position under aseptic conditions. After the completion of the surgery, animal didn't show any early signs of recovery due to some lung complications (as revealed by the owner) and it took her about 5 hour to come out of sedation. Animal urinated after 9 hours and showed some signs of recovery.

A hernia is the protrusion of an organ or a part through a defect in the wall of the anatomical cavity in which it lies (Douglas, 2003)^[3]. Most hernias involve the protrusion of abdominal contents through the abdominal wall. Trauma is the most commonly associated with hernias of the flank region. Young to middle aged animals are effected more than old age groups are, and motor vehicle accidents are the prime cause (Crowe, 1988)^[2]. Traumatic hernias are called false hernias because they lack hernia sac, they may be also called ruptures or ruptured hernia (Ashdown, 1963)^[1]. Occurrence of traumatic abdominal hernia in dogs and cats, according to University of Sydney Veterinary Teaching Hospital (USVTH) (1974-1989) is 4% and 10% and according to Murdoch University Veterinary Hospital (MUVH) (1978-1999) is 8% and 6% respectively. An abdominal hernia is any full thickness defect in the external wall of abdomen that may

allow protrusion of abdominal contents. Ventral hernia occur on or close to the ventral abdominal midline (Douglas, 2003)^[3]. In our present case, herniated organ was confirmed to be urinary bladder by ultrasound examination and ventral midline abdominal incision technique was used to explore the caudal abdomen and herniated content was reduced by the closure of the rent with simple interrupted suture. The most common complications in ventral hernia are hernia reoccurrence and wound infection. Synthetic mesh as a prosthetic material should be used to repair the defect in rare cases but in our case, mesh was not used as no such devitalization of tissue occurred. Post-operative therapy included melonex @0.2 mg/kg once daily for 3 days, syrup augmentin 375 mg b.i.d for 3 days and topical antiseptic ointment cipladine 20 g.

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