

# DIAGNOSIS AND SURGICAL CORRECTION OF TRAUMA INDUCED CYSTORREXIS IN TOM CAT

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A-1.5-year-old domestic short haired tom cat was presented with a history of anorexia, abdominal distension and total anuria. After physical examination, further investigation such as survey radiography, pneumocystography and positive contrast retrograde cystography with urograffin were undertaken. Based on history, clinical signs, physical and radiographic examinations, was diagnosed as a case of cystorrhesis and emergency laparotomy followed by cystorrhaphy was undertaken. With post operative fluid therapy, antibiotics, analgesia, regular antiseptic wound dressing, the tom cat recovered uneventfully.

**Keywords:** Cystorrhesis, Cystorrhaphy cat, Urograffin.

Urinary bladder rupture is the most common cause for the uroperitoneum in cats. Incidence of cystorrhesis is more common in males than the females, because of their less urethral compliance and dilation in response to increased intra vesicular pressure. Trauma of lower urinary tract is frequently recognized in veterinary patients and is the most common cause of uroperitoneum in cats and dogs. Feline lower urinary tract disease (FLUTD) is a common disease in cats which may occur in both genders. Trauma of lower urinary tract is a frequent cause of urinary bladder rupture in veterinary patients leading to the cause of uroperitoneum in cats and dogs (Tanko *et al.*, 2015). Cystorrhesis can occur due to the dog bite (Raghunath *et al.*, 2016) and automobile accident (Padmavathi *et al.*, 2017), urinary retention due to urethral stenosis as also mentioned by (Palthe *et al.*, 2018) or it maybe due to idiopathic cause as also elicited by (Suresh *et al.*, 2020). Incidence of cystorrhesis is more common in males than in females, because of their less urethral compliance and dilation in response to increased intra vesicular pressure. Patients with ruptured bladder often do not show clinical signs immediately after injury. However, they become dehydrated and

develop severe electrolyte and metabolic disturbances over subsequent 24 to 48 hrs (Bhuvaneshwari and Begum, 2019). The present case report deals with successful management of cystorrhesis by cystorrhaphy in a male cat.

## Case history and Observations

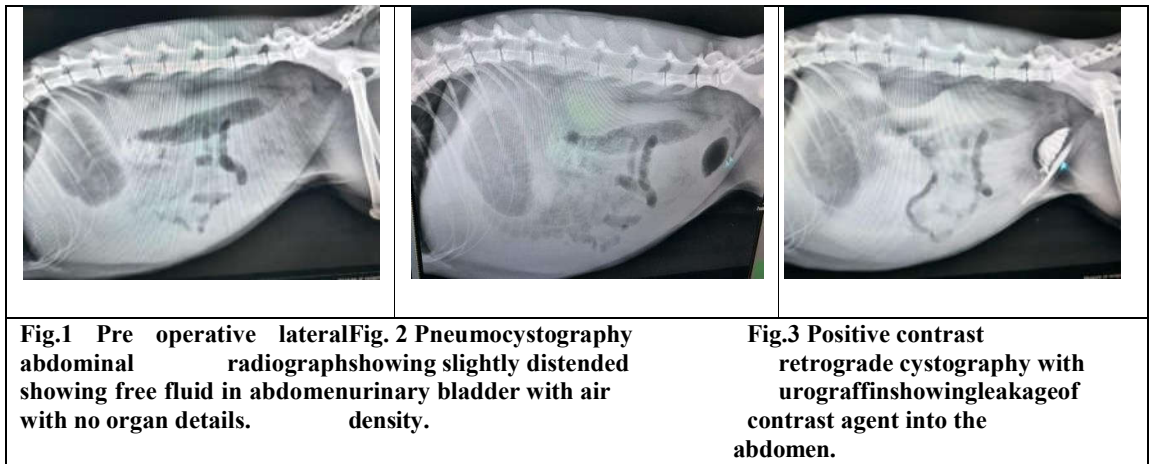
A-1.5-year-old domestic short haired tomcat was presented at the Veterinary clinical complex, College of Veterinary Science, Tirupati, with a history of anorexia, abdominal distension and total anuria and the animal was in the state of shock. The owner reported a history of automobile accident before two days and the abdomen was increasing after the injury. On clinical examination there was bilateral distension of the abdomen with fluid thrill and the bladder was not palpable. Survey radiographic study (Fig 1) in lateral view of abdomen revealed lack of bladder silhouette, and presence of uniform fluid density in the entire abdomen without abdominal or retroperitoneal details. Pneumocystographic study (Fig 2) revealed air filled mildly distended bladder with thickened wall. Positive contrast retrograde cystography with urograffin (Fig 3) revealed leakage of agent through ventral rent of the bladder into the peritoneum. Based on

history, clinical signs, physical and radiographic examinations, it was confirmed to be cystorrhaxis and emergency laparotomy followed by cystorrhaphy was undertaken.

**Surgical Treatment**

The ventral abdomen of the cat was prepared for aseptic surgery and the cat was maintained on I/V fluids. Induction was achieved with the combination of Xylazine, Atropine and Ketamine anaesthesia @ of 0.02mg, 0.5mg and 11mg per kg wt respectively and maintained with 2% Isoflurane. The animal was positioned on dorsal recumbency, under sedation, cat was catheterised using No. 3 tom cat catheter (Fig. 4). Midline celiotomy was performed, incising the skin, subcutaneous tissue and linea alba. The peritoneal fluid was drained and the ruptured urinary bladder was identified in the peritoneal cavity (Fig. 5). The condition was confirmed as trauma induced cystorrhaxis. The bladder was

exteriorized from abdomen and ventral transverse vent on the bladder wall was identified. The ruptured bladder was sutured by Cushings inversion sutures to complete - cystorrhaphy is done with 3-0 PGA (Fig. 6). Entire abdominal cavity was irrigated with normal saline to prevent the infection and the laparotomy incision is closed in a routine manner. A retrograde hydropulsion was done with 25ml of normal saline through the tom catheter, in order to ensure restoration of urine out flow. Post-operative care included maintenance of urinary catheter for 2 days, inj. Taxim @25-50 mg /kg b.wt BID for 5 days, inj. melonex @0.2 mg/kg b.wt OD for 3 days, I/V fluids and daily antiseptic dressing. Sutures were removed on 12<sup>th</sup> post operative day.. From 2<sup>nd</sup> post operative day the cat had normal activity with normal urination, food intake and made uneventful recovery. The animal improved gradually and was able to urinate normally after catheter removal.



## Results and Discussion

Urinary bladder rupture is the most common traumatic urinary injury in dogs and cats. Bladder injuries are rare in small animals as it is anatomically located within the bony pelvis, but injuries can occur when it gets distended and enter the abdomen. Ruptures of the urinary bladder was commonly associated with blunt abdominal trauma, but can also occur spontaneously as also reported by Palthe *et al.*, 2018. Cystorrhexis leads to morbidity and subsequent mortality when it is not attempted as early as possible, also elicited by Tanko *et al.*, 2015. Suresh *et al.*, 2020 also recorded cystorrhexis in a 3 year old male Rottweiler dog and stated that the rupture was due to idiopathic cause. Cystorrhexis can occur due to the dog bite as also mentioned by Raghunath *et al.*, 2016; automobile accident as was also recorded by Padmavathi *et al.*, 2017 and Bhuvaneshwari and Begum, 2018); by fall from a height as also recorded by Jhambh., 2014, by urinary retention due to urethral stenosis as also elicited by Palthe *et al.*, 2018 or it may be due to idiopathic cause as also mentioned by Suresh *et al.*, 2020. A case of trauma induced cystorrhexis was surgically corrected after accurate diagnosis and the reoccurrences of the condition was successfully prevented by dietary management in a tom cat.

## Summary

The present case reports about the successful diagnosis and surgical correction of trauma induced cystorrhexis in a Tom Cat.

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