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Case Report

Two Port Laparoscopy Assisted Surgical Approach for a Monorchid Cat

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ABSTRACT

Laparoscopy provides better visualization and several other advantages like lesser trauma, minor complications and faster return to normalcy. The present paper was aimed to study and evaluate the technique for cryptochidectomy in cat. A 7 month old monorchid cat was subjected to laparoscopic assisted cryptorchidectomy after clinical examinations and diagnosis. Using two portal assisted approach and bipolar electrocoagulations technique the spermatic cord and the gubernaculum testis were cauterized, transected and removed. Skin incisions were sutured routinely. The cat recovered uneventfully within 4 days time period.

Key words: Cat, Laparoscopic assisted technique, Monorchid

INTRODUCTION

Monorchidism or cryptorchidism is extremely rare in cats, although it is more common in dogs (Richardson and Mullen 1993). These testicles may be abnormally in the subcutaneous tissue of the inguinal region or in the abdominal cavity. Intra abdominal located testicles, if left without surgical correction may lead to sertoli cell tumors in the long run. Conventionally, a ventral midline abdominal incision is used to locate and remove this testicle. This paper describes a two-port laparoscopic assisted procedure that was used to remove an intra-abdominal located testicle in a cat.

Case history and observation

A 7 month old male cat was presented with the problem of one testicle in the scrotum. On clinical examination, the other testicle could not be palpated subcutaneously in the inguinal region. On radiological examination, there was a small radio-opaque mass seen in the inguinal region on a survey radiograph of lateral and ventro-dorsal view of abdomen, so it was confirmed to be in the abdomen. After haematobiochemical examination, a decision was made to undertake elective laparoscopic examination to locate the other testicle and remove it.

Surgical management

The cat was screened for routine clinical examination with palpation and observation of mucus membranes. Rectal temperature, heart rate, respiratory rate and pulse were recorded and found within normal physiological limits. Haematobiochemical test such as complete blood count, Liver Function test, Kidney Function test were run and all parameters revealed to be within normal ranges. After confirmation of normal blood values and clinical fitness, the male cat was fasted for 12 hours prior to surgery. General anaesthesia was induced with inj. Ketmax* 50 (ketamine Hcl) @ 20mg/kg and inj. Siquil (Triflupromazine Hcl) @ 1 mg/kg intramuscularly. Area from Xiphoid to pubis was clipped and prepared for aseptic surgery after scrubbing. Veress needle was inserted at the umbilicus on the right side of the midline to create pneumoperitonium with carbon dioxide gas. Pressure was kept at 8mm of Hg, flow rate 1.5 L/min. Camera port was created at the same site and a 5mm 0 degree straight forward laparoscope was inserted and abdominal cavity was examined. The testicle was visualized and a second working port was created between the umbilicus and pubis, on the ventral midline. Grasping forceps were introduced through this port and the testicle was grasped and exteriorized. Pneumoperitonium was collapsed and the exteriorized spermatic cord and vessel was cauterized with bipolar cautery outside the body and testicle was removed. Subcutaneous to intradermal continuous sutures were taken with Vicryl no. 4-0 to give an almost scarless appearance on the port site incisions. The other testicle was removed by conventional method. Antibiosis was provided preoperatively with amoxicillin-clavulanate @ 15mg/kg i/v and was continued for 7 days post operatively. Analgesic used was meloxicam @ 0.2 mg/kg s/c, intraoperatively and for 1 day post operatively. There were no any signs of discomfort or pain after the procedure and during the postoperative period. None other complications like discharge from the wound, dehiscence

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Fig. 1: Absence of one descended testicle

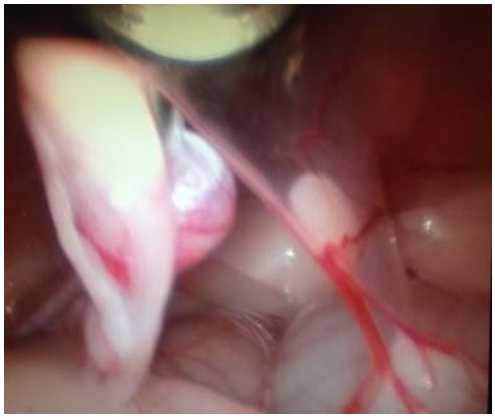

Fig. 2: Laparoscopic Visualization of Intra-abdominal testicle

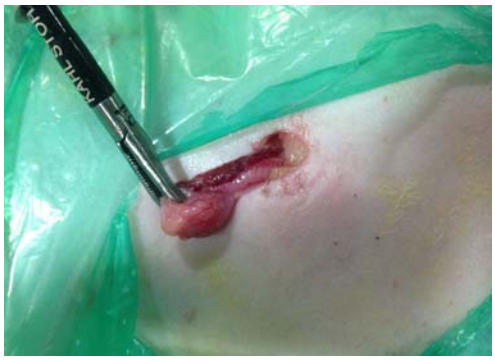

Fig. 3: Exteriorization of testicle

Fig. 4: Cauterization of Vessels and Cords

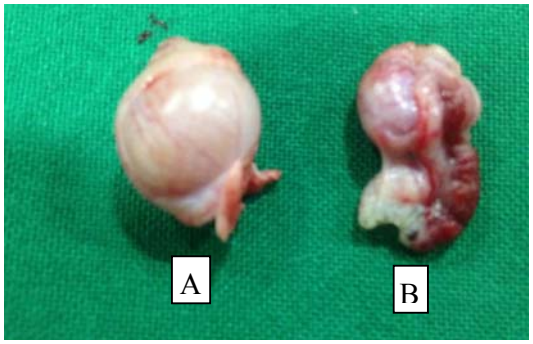

Fig. 5: Testicles after removal. A. Normal B. Retained (intra abdominal)

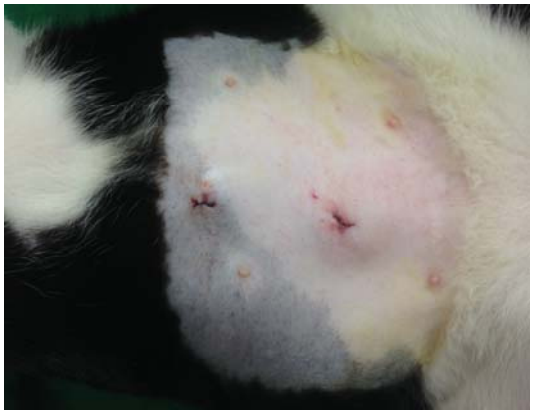

Fig. 6: Incisions of ports after closure

were recorded during the 7 day postoperative period. The laparoscopic wound healed up completely on the 7th day postoperatively alongwith the conventional one and cat regained its normalcy.

DISCUSSION

Laparoscopy is minimally invasive, less painful and an aesthetic form of surgery. For a complaint such as Monorchid cat presented, laparoscopy is a very suitable option. Several ligation techniques for the testicular structures have been described (Thiele *et al*. 1996, Bergeron *et al*., 1998, Pena *et al*., 1998, Shyu and Liu 1998, Lew *et al*., 2005). Ligation with a surgical knot is a technique for the spermatic cord occlusion. Coagulation of spermatic cord can also be performed by diathermy. (Nudelmann, 1997).

In this case, haemostasis of the gubernaculum testis and spermatic cord was achieved with bipolar cauterization outside the body. The arrangement and number of ports allowed for a comfortable and safe surgery without any intra or operative complications. Pneumoperitonium was achieved enough for trocarization and location of testes at 4 mmHg pressure. The wounds were closed from subcutaneous to intradermal in a single mattress knot which proved to be completely sufficient (Nudelmann, 1997, Pena *et al*., 1998). Post op pain score was 0 during recovery and for 2 days post operatively. Only two minute scars were visible which healed in 2 days time. The whole procedure took 7.5 minutes as the

testicle was easy to visualize and incisions to suture back were smaller.

Monorchidism in cats can be treated effectively and by preserving aesthetics by use of a two port laparoscopic technique to remove intra-abdominal testicle. This is a huge advantage over conventional form of surgery. Small size, aesthetical appearance, faster and painless healing is the hallmark of this procedure. Therefore the technique of two port laparoscopic assisted cryptocrchidectomy described in this case seems to be worth recommending as a useful method for removal of retained testes.

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