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Electrosurgical Excision of a large uniform Transmissible Venereal Tumor (TVT) in a spayed bitch: a case report

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Abstract

Canine transmissible venereal tumors (TVT) are cauliflower-like, pedunculated, and nodular, papillary, or multilobulated in appearance. The presenting bitch had a serosanguineous vulvar discharge and big mass in the perinea area. After initial preparation, sonography and radiological imaging was performed to find out any metastatic mass in abdomen or thorax region. Following general anesthesia the tumor was excised by electrosurgical technique. The resected tumor was sent for histopathological evaluation. A chemotherapy regimen was set up for the dog following the operation. A check up six months later didn't show any recurrence of the mass in this case. This was a rare case of TVT in a spayed bitch.

Key words: Transmissible Venereal Tumor, electro surgery, bitch

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Introduction

Transmissible venereal tumor (TVT) is the malignant vaginal Tumor that has wide distribution in tropical and subtropical area (Richardson, 1981, Rogers, 1997). Vaginal and vulvar neoplasia are relatively uncommon in the dog, with reported incidence among all canine tumors of 2.8 percent (Brodey and Roszel, 1997). Clinical signs of TVT in the bitch are presence of perineal swelling or one or more obvious tumor masses on the vaginal, vestibular or vulvar mucosa along with serosanguineous vulvar discharge (Fowler et al., 1997 and Brown et al., 1980). The tumor appears as single or multiple firm, small, gray to red nodules that may exceed 10cm in diameter (Thacher and Bussiere, 1997). Diagnosis is by visual inspection and cytological examination of exfolicated neoplastic cells (Rogers, 1997). Cytoplasmatic inclusions found in the tumoral cells caused this neoplasia to be attributed to a viral agent (Cockrill and Beasly, 1975), although the tumor could not consistently be transmitted by cell free extracts (Calvet, 1983).

Case Description

A five-year old, 10 kg, spayed female terrier dog was referred to the Veterinary teaching hospital of the Shiraz University, School of Veterinary Medicine. She was lethargic, depressed, and had serosanguineous vaginal discharge. She had been spayed by a private veterinarian a year earlier and since few months later she has had vaginal discharges. Physical examination revealed a large vaginal mass protruding between the anus and the vulva (Fig.1). Sonographical and radiological evaluations did not reveal any metastatic mass in the abdominal cavity or chest area. Surgical removal of the mass was elected and the animal was prepared for electrosurgical operation. An IV line was obtained and the animal received lactate ringers fluid, also Cefazolin antibiotic was administered prior to operation. The animal was tranquilized by acepromazine followed by induction of anesthesia by ketamine. The anesthesia was maintained by halothane throughout the operation. An epidural nerve block was induced by lidocaine to provide analgesia during and immediately after surgery. The animal was placed in a ventral recumbency with the legs hanging over the padded edge of the surgical table and the tail pulled cranially. A purse string suture was placed around the anus to limit contamination during operation.

Fig.1. Large vaginal mass was detected in initial examination

The area was prepared for aseptic operation; urinary catheter was inserted into the urethral orifice to save the urethra. An episiotomy incision was made through the dorsal commissure of the vulvar lips to just right lateral side of external anal sphincter muscle. Blade type electrode and blend 1 mode electrosurgery was used to cleanest incision with pure cut. But considering the fragileness of the mass, it was removed manually (Fig.2). The remaining part of tumor was desiccated by ball type electrode tip. The urethral orifice was reconstructed and other residual tumor like tissues resected by electroscalpel and the mucosal edges were sutured and the vagina and the vulva were reconstructed to a normal anatomic appearance. The purse string suture was removed from around the anus. The tumor mass was submitted for histopathological evaluation. Vincristine was administered intravenously once a week for one month. Antibiotic and analgesics were continued for 7 days following operation.

Grossly, the neoplasm was a solitary, pedunculated mass with a friable surface and weighted 630 grams (Fig.1). On histopathological examination of the sections, the neoplastic cells arranged in a loose sheets of relatively uniform round to ovoid cells. They had scanty eosinophilic to clear cytoplasm with indistinct borders. Nuclei were large, round, with a single prominent nucleolus. The mitotic index was relatively high (Fig.3).

Fig.2. Fragile mass was removed manually.

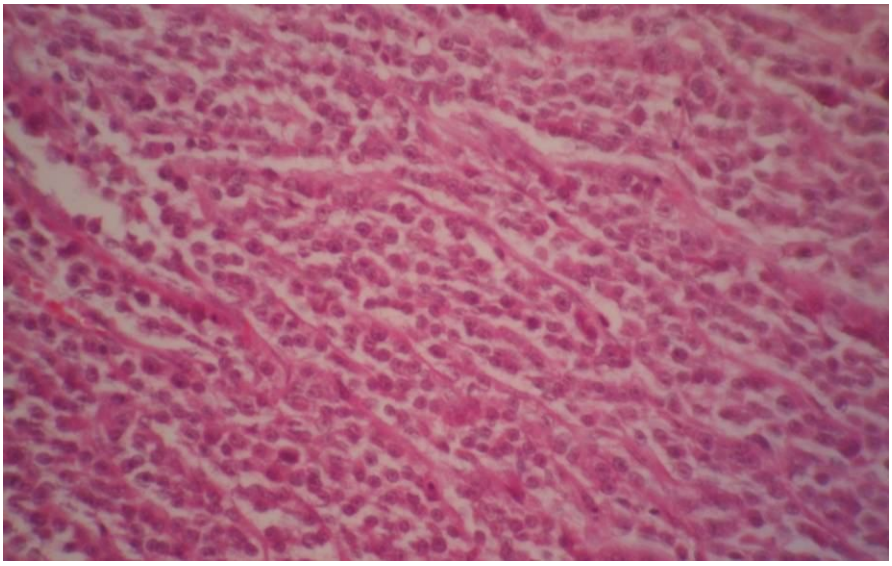

Fig.3. Histopathologic section of the TVT in spayed bitch

Discussion

A protruding vaginal tumor may be mistaken for a prolapsed uterus. Large or multiple neoplasm cause bulging of the vulva and perineum, and may obstruct the pelvic canal. Benign and malignant tumors occur in the vagina. The most common are benign, including leiomyoma, fibroma, histiocytoma, and lipoma. Tumors of vagina are seldom noticed until they protrude from the vagina or palpated during rectal or vaginal examination (Archibald, 1974). Effective treatment methods for benign tumors of vagina include surgical excision, cryosurgery, immunotherapy and chemotherapy. Surgical excision is the most successful in animals with few, small, circumscribed, accessible lesion with no local invasion or metastases, although the recurrence rate can be as high as 50 - 68% in cases of large invasive tumors (Weir et al, 1987). Contamination of the surgical site with TVT cells is also a source of recurrence (Boscos and Ververidis, 2004). Chemotherapy has been shown to be the most effective and practical therapy, by Vincristine sulfate being the most frequently used drug (Calvet et al, 1982). A cure rate approaching 100% is achieved in cases treated in the initial stages of progression, especially in cases of less than one year duration, disregarding the presence or absence of metastases (Boscos and Ververidis, 2004). In male animals the spermatogenesis can be temporarily or permanently altered by the administration of cytotoxic drugs (Rosenthal, 1981). Dexamethasone and progesterone can suppress immune system. Electrosurgical excision offers an added benefit of improved homeostasis, decreasing postoperative bleeding and negating the need to tie off bleeding vessels. Few reports suggest electrosurgical excision may produce greater postoperative pain because

of additional thermal injury (Gloster, 2000). In this case the operation was successful and by use of cytotoxic drugs no recurrence was observed.

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