Short Communication

SURGICAL MANAGEMENT OF SERTOLI CELL TUMOR IN A SHIH TZU DOG

T. Sarath[1], P. Jayashree[2], P. Sankar[3], S. Manokaran[4]*, R. Rajkumar[5], A. Thangamani[6], and A. Reshma[7]

Veterinary Clinical Complex
Veterinary College and Research Institute
Tamil Nadu Veterinary and Animal Sciences University
Salem - 636112

ABSTRACT

A 3-year-old cryptorchid Shih Tzu dog presented with the history of swelling near the right side of parapenile region along with development of mammary glands. Palpation of scrotal sac and testis showed that right testis was swollen and undescended, and left side testis was atrophied. Ultrasonographic examination of right testis appeared slightly echogenic and left testis appeared with no details. Orchiectomy was carried out and both the testicles were removed. After surgery histopathological examination confirmed the presence of Sertoli cell tumor. In the present case Sertoli cell tumor is recorded in three-year-old cryptorchid Shih tzu dog and successfully managed with radical surgery.

Key words: Cryptorchidism, sertoli cell tumor, feminization, Shih Tzu dog.

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INTRODUCTION

One of the most prevalent congenital reproductive disorder in dogs is called cryptorchidism, which is characterized by the inability of both of the testicles to descend into the scrotum within the first eight weeks of birth (Desai *et al*., 2024). It's an autosomal recessive characteristic that's sex-limited (Budalari *et al*., 2015). Testicular tumors comprise more than 10% of all canine and their incidence is significantly higher in dogs with cryptorchid testes (Noakes *et al*., 2009). It occurs in certain dog breeds including Boxers, Pomeranians, Dachshunds, Sealyhams and Cairn Terriers. Unilateral cryptorchidism is more common in cryptorchid canines, with a prevalence of 1-7% (Noakes *et al*., 2009). Testicular tumor was one of the most commonly occurring genital neoplasms in dogs and it had increased incidence rate for the past 40 years (Hobiteur *et al.,* 2014). Seminoma, Leydig cell tumor, and Sertoli

[1]Associate Professor and Head
[2]UG Scholar
[3]Assistant Professor
[4]Professor and Head, Department of Veterinary Gynaecology & Obstetrics, *Corresponding Author Email: smanokaran1976@gmail.com
[5]Assistant Professor, Department of Veterinary Gynaecology and Obstetrics
[6]Assistant Professor, Department of Veterinary Gynaecology and Obstetrics
[7]Assistant Professor, Department of Veterinary Gynaecology and Obstetrics

cell tumor were the three most prevalent testicular tumors reported in dogs (Santos *et al.*, 2000). Because two distinct types of testicular tumors can exist in the same testis, they are occasionally categorized as mixed tumors (MacLachlan and Kemedy, 2002). Histologically, primary testicular tumors can be divided into three categories: germ cell tumors, mixed germ cell-sex cord stromal tumors, and sex cord-stromal gonadal stromal tumors (Nodtved *et al*., 2011). Seminomas (SEM) are germ cell tumors, whereas sertoli cell tumors (SCT) and leydig cell tumors (LCT) are sex cord-stromal malignancies (D'Angelo *et al.*, 2012).

CASE HISTORY AND OBSERVATIONS

A three-year-old male Shih Tzu dog presented with a history of swelling near the parapenile area and enlarged teats since one week. On general clinical examination, all the vital parameters were within the normal reference range. Palpation of scrotal sac and testis showed that right testis was swollen and undescended, and left side testis was atrophied, the teats were enlarged. Ultrasonographic examination of right testis appeared slightly hypoechogenic and hyperechogenicity of border with loss of details of mediastinum testis and left testis appeared with no details. Further, there was absence of hyperpigmentation of skin and prepuce. However mild enlargement of nipples noticed in the inguinal region.

The surgical site was prepared aseptically and the animal was premedicated with atropine sulfate (0.04mg/kg b.wt) and xylazine (1ml/kg b.wt) intramuscularly. Anesthesia was induced with ketamine (5 mg/kg b.wt) and diazepam (0.2 mg/kg b.wt) intravenously. Incision was made on the cryptorchid testis and the spermatic cord was ligated individually, a tumor testicular mass and the atrophied testicles was exteriorized. The subcutaneous tissue and the skin incision was closed by standard operative protocol. Post operatively, the dog was administered with cefpodoxime (5mg/kg b. wt, P/O) for six days and tramadol (2mg/kg b.wt, P/O) for three days. The dog has recovered uneventfully and suture removed on 12th day. The cytological examination revealed round to elongated cells which are present individually as well as clusters, clear vacuoles in the cytoplasm with prominent nucleoli. Histopathological examination revealed testicular parenchyma was replaced by multi-lobular densely packed irregular sized tubules with neoplastic cells (Figure 5) were separated by a well-developed fibrovascular stroma (Figure 6).

Cryptorchidism is a well-documented risk factor for testicular neoplasia in both animals and humans and the incidence with cryptorchid testicles estimated to be 13 to 13.6 times more than the normally descended testicles (MacLachlan and Kemedy, 2002). This heightened risk is linked with the elevated intra-abdominal or inguinal temperature, which impairs spermatogenesis and may create a permissive environment for the proliferation of Sertoli cell tumors (Morrison, 2002). In male dogs, SCTs are often associated with clinical signs of feminization such as hyperpigmentation, contralateral testicular atrophy, prostatic squamous metaplasia, symmetrical alopecia,

and even bone marrow suppression could be observed in 20 to 30 per cent of the affected cases (Gopinath *et al*., 2009). The reported dog had alopecia over the lower abdomen however the overt signs of feminization were absent which highlights the inconsistent clinical signs in Sertoli cell tumor affected cryptorchid males. The majority of the testicular tumors reported were sertoli cell tumours which could be due to uncontrollable growth of sertoli cells within the testicles which could be treated by surgical removal of affected testis (Yumuşak *et al*., 2014). In the present case a three-year-old male Shih Tzu dog with unilateral right scrotal swelling and atrophied left testicle was subjected for surgical excision of the testicles and confirmed as Sertoli cell tumor histopathologically.

CONCLUSION

The present case report recorded a successful management of Sertoli cell tumor by surgical excision in a three-year-old male Shih Tzu dog.

Fig.1. Incision made over the cryptorchid testis

Fig.2. Exteriorizing the right testicle

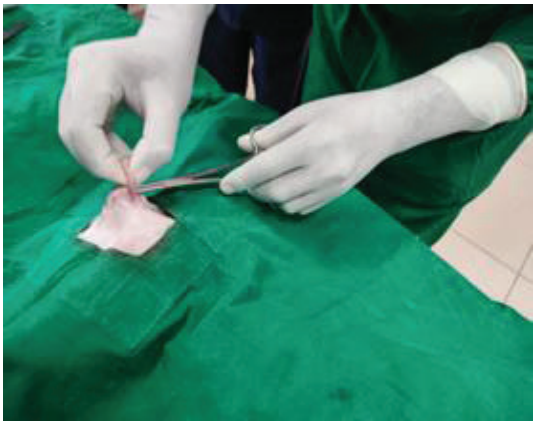

Fig.3. Exteriorizing the left testicle

Fig.4. Exteriorized right and left testicles

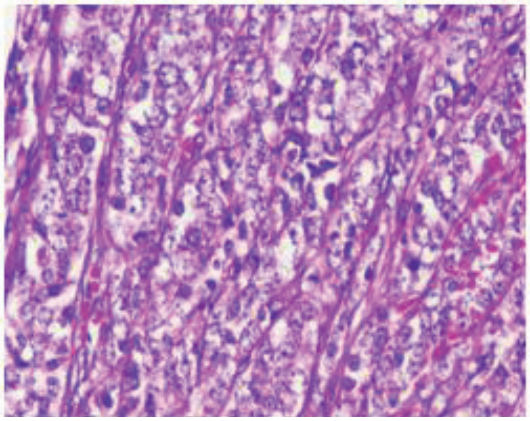

Fig.5. Testicular parenchyma was separated by a well-developed fibro vascular stroma

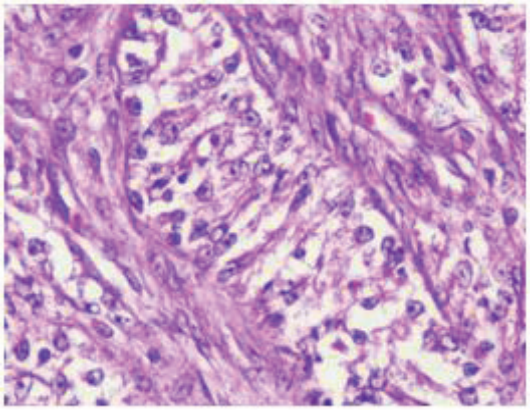

Fig.6. Testicular parenchyma was replaced by multilobular densely packed irregular sized tubules with neoplastic cells.

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