
SURGICAL MANAGEMENT OF SERTOLI CELL TUMOUR IN A CRYPTORCHID DOG

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ABSTRACT

A nine year old male cross bred dog was presented with a complaint of a progressively growing swelling in the left inguinal region. Clinical examination revealed that only right testis had descended into the scrotum. Ultrasonographic examination was suggestive that the mass is an undescended testis. Bilateral orchietomy was performed and histopathology of the mass confirmed sertoli cell tumour. The dog had an uneventful recovery.

Keywords: Canine, cryptorchidism, sertoli cell tumour, orchietomy

INTRODUCTION

The word cryptorchidism is derived from a Greek word 'kryptos' meaning hidden and 'orchis' meaning testicle. A sexually normal adult male dog has two evenly sized testis in either halves of the scrotal sac. A non-castrated male dog with no testes in

the scrotum is called bilateral cryptorchid and male with one testis in the scrotum is called unilateral cryptorchid (Memon, 2007). Testicles should be palpable in most puppies older than six to eight weeks of age. Retained testes are more prone to testicular torsion and neoplasia. Among the testicular tumors, sertoli cell tumors and seminomas are common (Hayes *et al.*, 1985). A case of a unilateral cryptorchid dog with sertoli cell tumour and its successful surgical correction is placed on record.

CASE HISTORY AND OBSERVATION

A nine year old Shiba-Inu-Pomeranian cross bred male weighing 12 kg was brought to Teaching Veterinary Clinical Complex, Mannuthy with a complaint of a progressively enlarging subcutaneous mass in the left inguinal region. On clinical examination it was found that only right testis had descended into the scrotum and the other half of the

scrotum was atrophied. Animal was never used for breeding purpose. On palpation, the mass was subcutaneous, fluctuating, painless and with irregular surface. Lateral thoracic radiograph did not show any signs of pulmonary metastasis. On B- mode ultrasonography, an anechoic capsulated mass with 5.38cm length and 3.6cm width was noticed which was suggestive of the undescended testis but the echotexture was considerably different from normal. Physiologic parameters and haematologic

values were within the normal range. It was decided to perform bilateral orchietomy.

TREATMENT AND DISCUSSION

Animal was premedicated with butorphanol at the rate of 0.2mg/kg body weight and diazepam at the rate of 0.25 mg/kg body weight intravenously.



Fig. 1. Ultrasound image of the mass

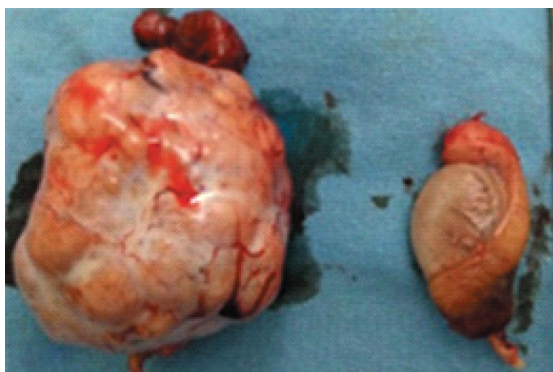


Fig. 2. Testicles after surgical removal showing a capsulated anechoic structure removal

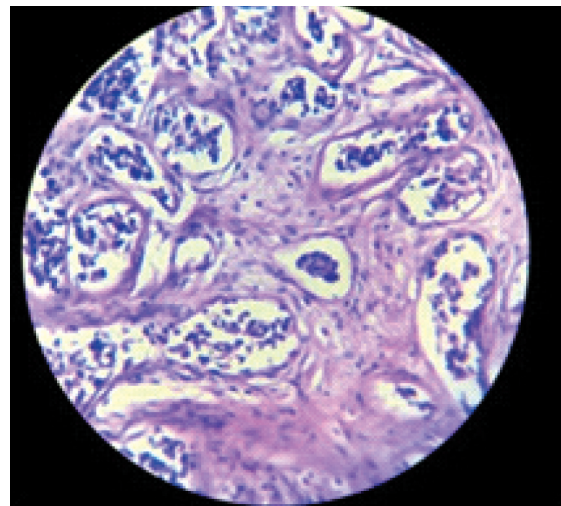


Fig. 3. HP undescended testis under 40 X

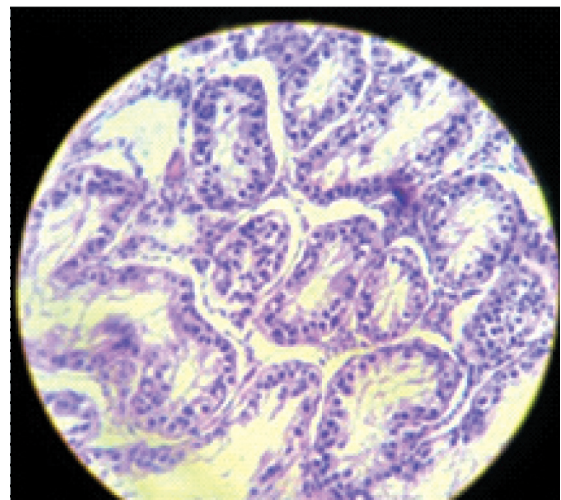


Fig. 4. HP atrophied testicle magnification with H&E stain H&E stain 40 X magnification

Antibiotic ceftriaxone @ 20mg/kg body weight was administered preoperatively. Propofol @4mg/kg was used for induction of anaesthesia and was maintained with 1- 2% isoflurane in oxygen using Bain's circuit. Animal was positioned in dorsal recumbency. A linear skin incision was made over the mass, dissected and exteriorized the ectopic testis. Ligated the vascular and avascular bundles separately using polyglactin 910 size 1-0 and removed the testis. The subcutaneous layer was apposed followed by skin closure with nylon in simple interrupted pattern. The descended testis was then removed using standard pre-scrotal technique of castration. Post-operatively the dog was given Tab cephalixin 250 mg twice daily and multivitamins for five days. Sutures were removed on the 10th postoperative day and the animal made an uneventful recovery.

Grossly the undescended testicle had irregular surface and histopathology revealed numerous small sized seminiferous tubules with predominance of sertoli cells, absence of spermatogonia, leydig cells laden with fat droplets and abundance of fibrous connective tissue stroma, suggestive of sertoli cell tumor. Similar findings were reported by Carreira *et al.* (2012). Histopathology of atrophied testis showed, decreased diameter of seminiferous tubules

and absence of active spermatogonia. Ectopic testes are most commonly found in abdomen and inguinal canal. A unilateral cryptorchid produce viable sperms but quality of the semen will be less whereas bilateral cryptorchid will be usually sterile. Testes should be scrotal to produce viable sperms but cryptorchidism does not affect testosterone production (Matheeews and Comhaire, 1989). Retained testes are more prone to neoplasms and testicular torsion.

Diagnosis of the condition is based on clinical examination and ultrasonography which is an important tool in the diagnosis of the condition (Eilts *et al.*, 1988). Testicular ultrasound in the normal dog reveals a coarse, homogenous echotexture (Pugh *et al.*, 1990) and loss of normal echotexture of the undescended testicle in this case could be due to the tumour. As cryptorchidism is hereditary, affected dogs will not be allowed to breed. Treatment include bilateral orchiectomy and rarely orchiopexy (Memon, 2007).

SUMMARY

Successful surgical treatment of a congenital, unilateral cryptorchid with sertoli cell tumor in a nine-year-old cross bred male dog and its successful surgical management with bilateral orchiectomy is reported.

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REFERENCES

- Carriera, V., Langohr, I.M. and Ferrari, H.F. 2012. Pathology in practice: Sertoli cell tumour (SCT). *J. Am. Vet. Med. Assoc.* **241**(1): 55-57.
- Eilts, B E., Pehman, R.D., Hedlund, C. S. and Kreeger, J M. 1988. Use of ultrasonography to diagnose sertoli cell neoplasia and cryptorchidism in a dog. *J. Am. Vet. Med. Assoc.* **192**(4): 533-534.
- Hayes, H M., Wilson, G. P., Pendergrass, T. W. and Cox, V. S. 1985. Canine cryptorchism and subsequent testicular neoplasia: case-control study with epidemiologic update. *Teratology* **32**(1): 51-56.
- Matheeuw, D. and Comhaire, F. H. 1989. Concentrations of oestradiol and testosterone in peripheral and spermatic venous blood of dogs with unilateral cryptorchidism. *Domest. Anim. Endocrinol.* **6** (3): 203-209.
- Memon, M. A. 2007. Common causes of male dog infertility. *Theriogenology* **68**(3): 322-328.
- Pugh, C.R., Konde, L. J., and Park, R D. 1990. Testicular ultrasound in the normal dog. *Vet. Radiol.* **31** (4): 195-199.

