Case Report

Journal of Animal Feed Science and Technology
Volume 11 Number 2, July - December 2023
DOI: http://dx.doi.org/10.21088/jafst.2321.1628.11223.4

Diagnosis of Cryptorchidism in German Shepherd Dog using Ultrasonography & its Management

Manjusha Patil[1], Pankaj Hase[2], Lalit Misalwar[3], Vaibhav Choutmal[4]

How to cite this article:
Manjusha Patil, Pankaj Hase, Lalit Misalwar, *et al.*/Diagnosis of Cryptorchidism in German Shepherd Dog using Ultrasonography & its Management/Journal of Animal Feed Science and Technology 2023;11(2):81-83.

Abstract

Present article reports the case of bilateral cryptorchidism in German shepherd dog and its diagnosis using manual palpation of scrotum, real time B-mode ultrasonography. Cryptorchidism is common congenital condition affecting overall reproduction, excessive sexual behaviour also can show some aggressive behaviour.

Keywords: Cryptorchidism; German Shepherd; Ultrasonography.

INTRODUCTION

Cryptorchidism is a common congenital pathology affecting reproduction and general behaviour of dogs. Majority of cases of cryptorchidism are observed in dogs but can also be observed in other animal species. The condition can be unilateral or bilateral, characterised by failure of descent of testis into scrotum from the abdominal cavity. Cryptorchidism is heritable and is a sex limited autosomal recessive trait in dogs (Johnson *et al.*, 2001).[1] The incidence seems to be higher in purebred and inbred dogs than in mixed breed dogs. High prevalence of cryptorchidism within lines of inbred Cocker Spaniels and miniature Schnauzers has been reported (Cox *et al.*, 1978) and (Pulling, 1953).[2,3]

Author Affiliation: [1]Assistant Professor, [3,4]Postgraduate Scholar, Department of Animal Reproduction, College of Veterinary and Animal Sciences, Parbhani 431401, Maharashtra, India, [2]Assistant Professor, Department of Veterinary Clinical Medicine, Ethics and Jurisprudence, Mumbai Veterinary College, Mumbai 400012, Maharashtra, India.

Corresponding Author: Pankaj Bhanudas Hase, Assistant Professor, Department of Veterinary Clinical Medicine, Ethics and Jurisprudence, Mumbai Veterinary College, Mumbai 400012, Maharashtra, India.

E-mail: pankaj_hase@rediffmail.com

Received on: 06.05.2023 **Accepted on:** 15.06.2023

CASE HISTORY

A four-year-old German shepherd male dog was presented to the TVCC (Teaching veterinary Clinical Complex) of COVAS, Parbhani (College of veterinary and Animal Science), with the complaint of failure of conception even with subsequent mating with different female dogs. Inspite of showing excessive sexual desire and achieving erection and successful mating the female dogs was failed to conceive. Visual examination and palpation of scrotum and inguinal area revealed that the dog had normal penis with rudimentary scrotum and complete absence of both the testes in scrotal sac.

DIAGNOSIS

Manual Palpation:

Upon arrival of the dog at TVCC, and taking complete history, physical examination was carried out and looking at the history, the genitals were checked and the scrotal sac was palpated with finger tips revealing complete absence of both the testicles in the scrotal sac.

Ultrasonography:

The ultrasonography technique used was real time B-mode using transabdominal curvilinear probe of frequency ranging 5-2 MHz. With animal in its lateral recumbency the kidneys were located and the retained testes was searched starting from caudal border of kidney and moving downwards to inguinal region, searching area around the scrotal sac and urinary bladder. The retained testes can be recognised by its echogenicity and texture in comparison with other abdominal organs.

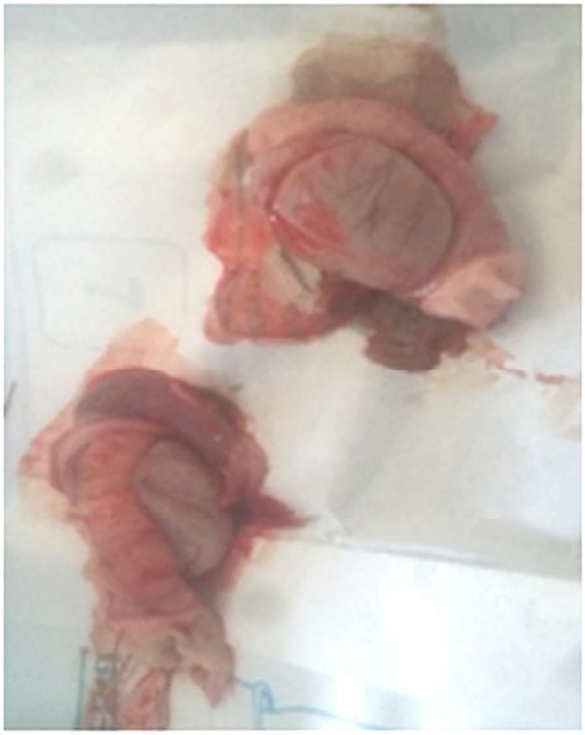

Fig. 1: Removed cryptorchid testes.

Both the retained testes were located successfully using ultrasonography. For the present case the ultrasonography was carried with the dog in dorsal and lateral recumbency.

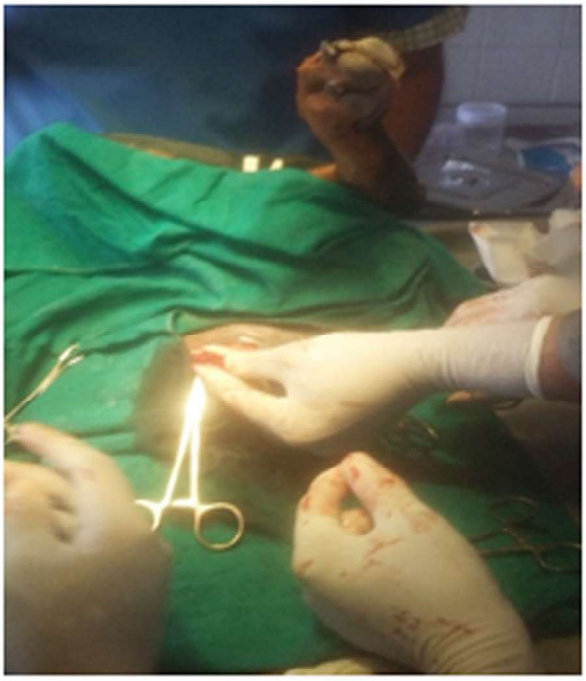

Fig. 2: Picture depicting cryptorchid testicle

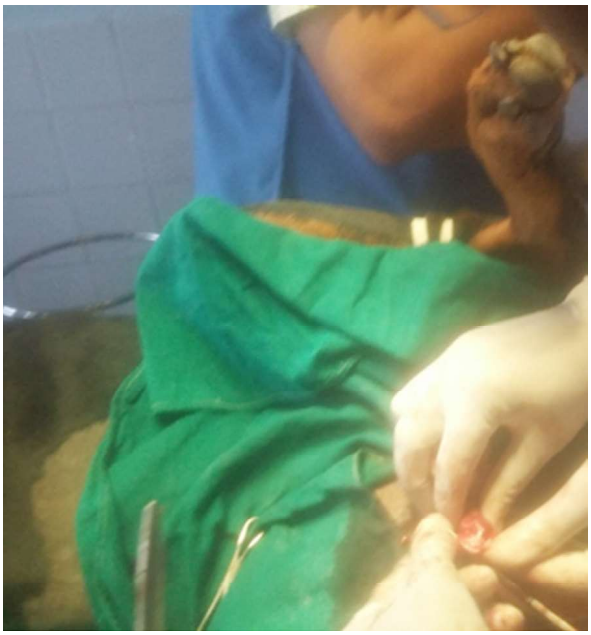

Fig. 3: Picture showing testicle exteriorised

TREATMENT

The location of retained testes was confirmed by ultrasonography and was decided to go for chryptorchidectomy. The dog was kept off feed and water for 8-10 hrs prior to surgery. The dog was administered NSAID (inj. Meloxicam @ 0.2 mg/kg BW IM), supportive fluid (inj. DNS 250 ml IV), broad

spectrum antibiotic (inj. Ceftriaxone tazobactum 500 mg IV). As a sedative Inj. Xylazine @ 1 mg/kg BW IM was used. For induction inj. Ketamine @ 10 mg/kg BW IM. The retained testes was removed successfully. The muscle and peritoneum was sutured by simple interrupted suture pattern using catgut no.1 and skin was sutured using nylon. Post operative NSAID, Antibiotic and daily dressing of suture was done for 5 days. The recovered uneventfully.

RESULT AND DISCUSSION

Cryptorchidism is commonly encountered in small animals especially dog and cat, with incidence of 1.2-12.9% in dogs and 1.7-3.8% in cats (Yates *et al.*, 2003).[4] In dogs one of the possible cause is inherited, autosomal recessive trait, with incidence higher in small breeds of dogs than large breeds (Tobias and Johnston, 2013).[5] The other congenital defects noticed in cryptorchid dogs include inguinal and umbilical hernias, penile and preputial problems, luxation of patella (Pendergrass and Hays, 1975).[6] Also there is tendency of retained testes to develop neoplastic changes and the risk of neoplasia has been reported to 9-14 times higher than in scrotal testes (Hays *et al.*, 1985).[7] Among the neoplastic changes the common is Sertoli cell tumours and seminomas (Reif and Brodey, 2010).[8] The diagnosis can be done with manual palpation ultrasonography. Use of Human Chorionic Gonadotrophin (HCG) or Gonadotropin releasing Hormone (GnRH) stimulation Test to induce a measurable change in testosterone can be useful diagnostic tool (Memon and Tibary, 2001).[9] The treatment included removal of retained testes by laparotomy or laproscopic method can also be used. As for the above case, both the retained testicles were removed successfully using surgical laparotomy.

REFERENCES

1. Cox V. S., L. J. Wallace, C. R. Jensen. (1978). An anatomic and genetic study of canine cryptorchidism. Teratology. 18:233-240.
2. Hays H. M., G. P. Wilson, T. W. Pendergrass. Canine cryptorchidism and subsequent testicular neoplasia: Case-control study with epidemiologic update. Teratology, 1985; 32:51-56.
3. Johnston S. D., M. V. Root Kustritz, P. N. S. Olson. Disorders of the canine testes and epididymes. In: Canine and Feline Theriogenology. Philadelphia: WB Saunders, 2001; 312-332.
4. Memon. M. & A. Tibary. Canine and feline cryptorchidism. Ivis (En línea). (2001).
5. Pulling T. Cryptorchidism in Cocker Spaniels. J Hered 1953; 44:250.
6. Pendergrass TW, Hays HM. Cryptorchidism and related defects in dogs: Epidemiologic comparisons with man. Teratology, 1975; 12:51-56.
7. Reif J. S. & R. S. Brodey. The relationship between cryptorchidism and canine testicular neoplasia. J Am Vet Med Assoc, 1969; 155:2005-2010.
8. Tobias K. M. & S. A. Johnston. Veterinary surgery: small animal: 2 volume set. Elsevier Health Sciences. 2013.
9. Yates D, Hayes G, Heffernan M, Beynon R. Incidence of cryptorchidism in dogs and cats. Veter Record. (2003). 152:502–4. doi: 10.1136/vr.152.16.502.