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Periorchitis with testicular atrophy and in a mongrel dog

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Abstract
A 3-year old male stray dog was bought for castration in the Animal Birth Control centre, Faulty of Veterinary Sciences and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shuhama. Preoperative examination revealed apparently health dog except disparity in the size of testis, with left testis being considerably smaller than the right testis. Upon surgery the left testis was seen adhered to the vaginal tunic and smaller in size. The adhesions were broken and the skin suture was closed in the routine manner.

Keywords: Stray dog, castration, testis, vaginal tunic

Introduction
Stray dogs are commonly found in the developing countries, often consuming refuse to survive with little of no access to veterinary care (Butler and du Toit, 2002, Butler *et al*., 2004, Reece *et al*., 2008) [4, 5, 6]. India's large population of stray dogs originates from a unique combination of local tolerance, abundant food, shelter, breeding opportunities, and ineffective dog control policies (Reece, 2007) [7]. The overpopulation of stray dogs is a serious public health and animal welfare concern in India (Gill *et al*., 2022) [3]. Male dogs often fight over the territory, dominance, mating, food etc. leading to various kinds of injuries. A case of periorchitis accompanied with testicular atropy in presented in a mongrel dog.

Case history and Clinical Observation
A 3-year-old male stray dog was bought for castration in the Animal Birth Control center, Faulty of Veterinary Sciences and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shuhama. Preoperative examination revealed apparently health dog except disparity in the size of testis, with left testis being considerably smaller than the right testis. The animal was administered Xylazine @ 1mg/kg bodyweight and Ketamine @ 10 mg/kg bodyweight. A pre scrotal incision was given through which both the testes were removed. The right testis was easily removed. However, the left testis was removed with difficulty owing to the adhesion of the vaginal tunic with testis (fig. 1). The adhesions were broken and the incision was closed with polyglactin 910 No 1/0 -suture material. The animal was released on 5th post-operative day to its place of capture.

Discussion
Testicular atrophy is a reduction in testicular size (Cross *et al*., 1999) [8]. It is a clinical or macroscopic term, whereas the corresponding microscopic change is degeneration. The causes of testicular atrophy-degeneration are numerous. Some of the known causes are heat including high environmental temperature, fever, epididymitis and orchitis, scrotal dermatitis, scrotal edema, and periorchitis; radiation (for cancer therapy); poor health and debility; advancing age; hormones, including estrogen and Sertoli cell tumors; drugs; chemotherapy; systemic inflammatory diseases; and situations of oxidative stress. Mild degenerative changes occur in dogs with aging. (Freshman, 1989) [2]. Periorchitis is inflammation around the testis, and it most commonly arises from epididymitis. It can also arise from extension of peritonitis and from penetrating injury to the scrotum. The dependent nature of the scrotal sac means that exudates remain in the sac. Organization and fibrosis of exudates and granulation tissue lead to fibrous adhesions and subsequent testicular atrophy from reduced thermoregulation and pressure (Foster, 2012) [1]. Dogs keep fighting with one another over territory, dominance, mating, food etc. leading to various kinds of injuries including scrotal injuries.

However, there were no visible marks of testicular injury in the present mongrel dog that was brought for castration.

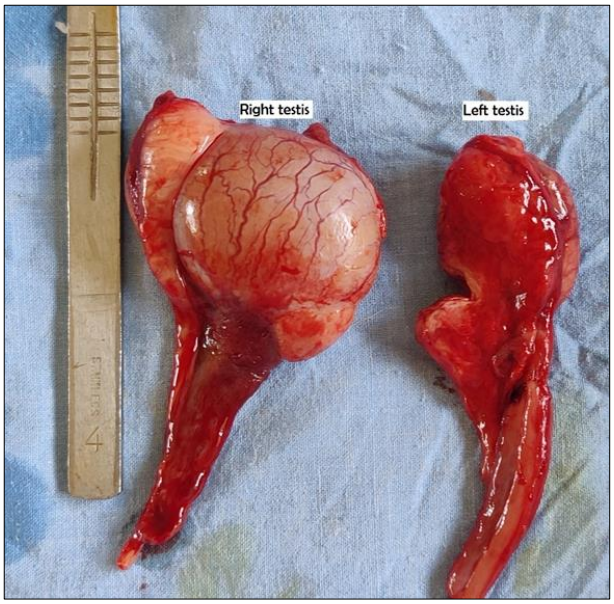

Fig 1: Photograph depicting removed testis in the mongrel dog

Conclusion

Penetrative trauma to the scrotum can lead to inflammation and adhesion of tunica vaginalis leading to periorchitis. Chronic periorchitis can lead to testicular atrophy from reduced thermoregulation and pressure

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