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Case Report

Infertility Due To Unilateral Testicular Hypoplasia with Excessive Sperm Abnormalities in a Male Dog – A Case Report

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ABSTRACT

The present case report depicts infertility in male dog due to unilateral testicular hypoplasia with excessive sperm abnormalities.

Key words: Male infertility, Testicular hypoplasia, Sperm abnormality, Canines

INTRODUCTION

Testicular hypoplasia is a rare condition depicted by complete absence or severe reduction of spermatic tissue in one or both the testes. It occurs as a developmental disorder in which the germinal cells fail to migrate to the fetal testes or the germinal cells are destroyed during development (Roberts, 1982). This communication records, a case of infertile male dog due to unilateral testicular hypoplasia with excessive sperm abnormalities.

A 2.5 yrs male dog (pug) was presented to the veterinary clinic, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana with the history of failure to impregnate the fertile bitch despite successful mating. The dog was in good health with proper deworming and vaccination status. Clinical history did not reveal any disease or injury to the genitalia. Further, this was not a case of sexual overuse as a commercial breeder. Breeding soundness evaluation of male was conducted to assess the condition of the reproductive system. Examination of external genitalia revealed relatively small right testicle as compared to left one. Further investigation from the owner revealed that the right testicle never attained the normal size suggesting unilateral testicular hypoplasia (Fig 1). To rule out the possibility of testicular degeneration, ultrasonography of affected testis was done using B-mode liner array transducer (7.5 MHz). Ultrasonography did not reveal any fibrosis which is a common sequel in testicular degeneration. Semen was collected by massage method and sperm rich fraction was collected in a sterile test tube.

The semen was evaluated for macroscopic (colour, volume, pH) and microscopic parameters [individual motility, sperm concentration (Haemocytometer method), live sperm count (Eosin Nigrosin staining method) and sperm abnormalities (Rose Bengal staining method)]. Blood was sent for haematological (TLC, DLC, Hb) and biochemical (SGPT, SGOT, BUN, creatinine) tests to confirm any systemic physio-pathological alterations. The dog was advised Syp. Vimeral, 1 tsf, b.i.d. (Glaxo Smithkline Ltd), Tab. Celin 500 mg (Glaxo Smithkline Ltd.) and Cap. Evion 400 mg (Intas Pharma Ltd.) on alternate day for 1 month) and semen was collected and evaluated thereafter. Sexual rest was advised to dog during this period.

The colour, volume and pH of the semen were whitish, 1 ml and 7.2, respectively. The sperm concentration was 250 million / ml. The individual sperm motility and live sperm were 40% and 55%, respectively. The total sperm abnormalities were 80%, out of that decapitated head was 43.5% and total tail abnormalities were 36.5% (tightly coiled, abaxial attachment, and tail stump).

The total leucocytic count was 8000/cu mm. Neutrophil, lymphocyte and eosinophils were 62%, 34% and 2%, respectively. Hb was 12.2 mg/dl. SGPT, SGOT, BUN and creatinine

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were 25.6 IU/L, 22.4 IU/L, 12.2 mg% and 0.9 mg%, respectively. The haematological and biochemical results were within the normal range. Treatment with anti stress and antioxidant drugs did not show any improvement in the semen picture.

Hypoplasia is usually suspected at the time of puberty or later when the testicles fail to develop to normal size. However, sexual activity of the affected animal remains normal (Arthur *et al.* 1989). In this case, the testicular hypoplasia was confirmed by the facts that the affected testis never attained the normal size and the dog failed to impregnate fertile bitch after attaining puberty though the libido was excellent. Testicular degeneration was ruled out with no history of orchitis or gradual decline in testicular size. Testicular ultrasonography also revealed no fibrotic changes. Moreover, SGPT and SGOT values which are higher during tissue damage were also normal. In testicular degeneration there is failure of maturation of spermatozoa, spermatids undergo degeneration and become necrotic (Oettle, 1993). However, no such immature, degenerated and necrotic sperm were seen. Thus, the case was confirmed as infertility due to unilateral testicular hypoplasia with excessive sperm abnormalities.

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