

Male Pseudohermaphroditism in a Bitch: A Case Report

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ABSTRACT

An eight months old Cocker Spaniel bitch, weighing 11kg, was presented to the Department of Surgery and Radiology, College of Veterinary Sciences & A.H., CAU, Selesih, Mizoram, with the complaint of dysuria. On physical examination of the external genitalia revealed that the bitch possessed the vulva with enlarged clitoris protruding from the vulvar juncture and both testes remained undescended. Laparotomy revealed persistent Mullerian duct (PMD) with abdominally located testicles. Thus the congenital defects were diagnosed as male pseudohermaphroditism (MPH) with PMD.

Keywords: Pseudohermaphroditism, bitch, treatment

Disorders of genital development occur in all species of mammals (Cribiu and Chaffaux, 1990; Passello-Legrand and Mowat, 2004; Weng *et al.*, 2005). Intersex animals are called pseudohermaphrodites or hermaphrodites depending on their gonads (Howard and Bjorling, 1989). True hermaphrodites have the gonadal tissue of both sexes whereas pseudohermaphrodites possess the gonads of one sex but the secondary sex characteristics and external genitalia of opposite sex. Male pseudohermaphrodites possess testes while having mixed or female external genitalia. In true hermaphroditism, both testicular and ovarian tissues are present in various combinations. A testis may be found on one side in combination with an ovary on the contra lateral side, an ovotestis only may be present, or an ovotestis may be paired with a testis or ovary. These developmental disorders are caused by abnormalities of genetic or chromosomal origin,

or inappropriate hormonal or chemical exposure (Passello-Legrand and Mowat, 2004).

Case History

An eight month old Cocker Spaniel was presented to the Department of Surgery and radiology, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram with the complaint of dysuria.

Clinical Evaluation

On physical examination of the external genitalia revealed the presence of an enlarged clitoris protruding out from the valvar junction (Fig. 1). Laparotomy revealed persistent Mullerian duct (PMD) with abdominally located testicles. Thus the congenital defects were diagnosed as male pseudo-hermaphroditism (MPH) with PMD.



Fig. 1: Enlarged clitoris protruding out from the valvar junction

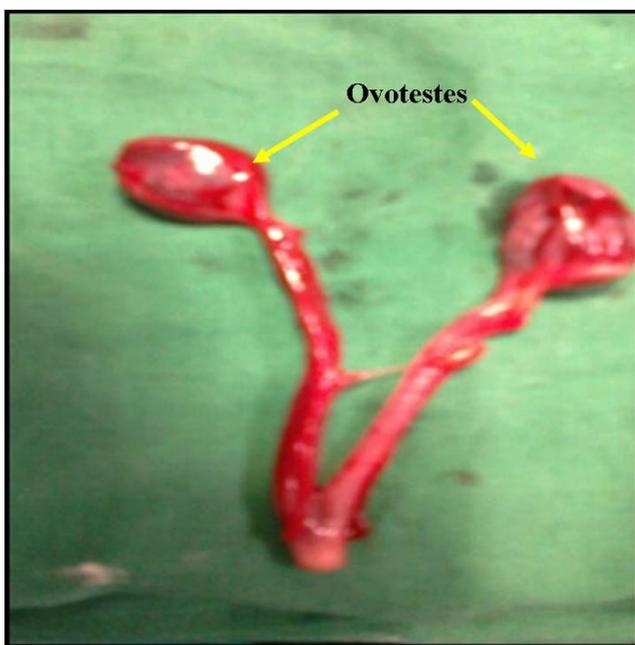


Fig. 2: Ovotestes with persistent Mullerian Duct

Treatment

Exploratory laparotomy was performed as a diagnostic and therapeutic procedure. After premedication with Atropine Sulphate (@ 0.02 mg/kg BW, IM) the animal was anaesthetized with a combination of Xylazine (@1mg/kg BW), Diazepam (@ 1mg/kg BW) and Ketamine (@10mg/kg BW). The bitch was placed on

dorsal recumbence and the caudal abdominal and inguinal regions were surgically prepared with povidone iodine surgical scrub. Through a median incision the gonadal and genital tract was removed and the abdominal wall and skin incision was closed as routine manner.

Post-operative Care

Post-surgical care included Ceftriaxone @15mg/kg BW IM daily for 5 days, Meloxicam @0.2 mg/kg BW for 3 days with local antiseptic dressing. The skin sutures were removed on 8th post-operative day. There was no post-operative complication.

RESULTS AND DISCUSSION

Surgical outcome of the case was satisfactory. The dog recovered uneventfully with complete healing of the surgical wound. Timely surgical correction was mandatory as the growing clitoris was blocking the urinary meatus thus causing dysuria and ascending urinary tract infection.

In mammals, genital development disorders have been described in numerous species including humans, pigs, goats, horses and dogs (Cribiu and Chaffaux, 1990; Kim and Distl, 2006). The term hermaphrodite is used independently of the chromosomal constitution. The individuals may have an ovary on one side and a testis on the other or they may have combined ovotestes (Kai *et al.*, 2003). A pseudohermaphrodite shows a disagreement between phenotypic and gonadal sex (Howard and Bjorling, 1989; Del Amo *et al.*, 2001). According to Kennedy and Miller (1993) male or female pseudo hermaphrodite were categorized on the basis of single type of germinal tissue present which is agreement with the present case.

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