ABSTRACTS

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Sexual developmental disorders in 3 dogs
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OBJECTIVES AND METHODS: This report describes ambiguous sexual morphology, diagnostic methods, treatment and histopathological features about sexual developmental disorders in 2 Cocker Spaniels and 1 Yorkshire Terrier. Two 2 yrs old intact female American Cocker Spaniels (Case 1, 2) presented to the hospital with licking vulva, ambiguous estrus cycles and enlarged clitoris. GnRH stimulation test, karyotyping, PCR test for evaluation of Sry gene and histopathological examination for gonads were performed. A 4 yrs old male Yorkshire Terrier (Case 3) presented to the hospital with abdominal mass. That patient had been performed operation for bilateral cryptorchidism 2 years ago in local hospital.

RESULTS: Case 1: Enlarged clitoris was approximately 2cm and increased post serum testosterone concentration was 5.93 ng/ml (pre 3.7 ng/ml) in GnRH stimulation test, which was suspected presence of testicular tissue in gonad. During operation, the two gonads were located caudally to the kidneys and had the appearance of testes, and epididymis. In histopathologic examination, both gonads were testes with leydig cells and hypoplastic seminiferous tubules contained only sertoli cells. According to female karyotype (XX, 78 / Sry gene (-)), presence of bilateral testes, epididymis and female phenotypic sex, the final diagnosis was XX sex reversal true hermaphrodite. Case 2: As the patient had XX, 78 chromosomal constitutions without Sry gene, ovotestis, testis, uterus, and female external genitalia, the final diagnosis was XX sex reversal true hermaphrodite. In GnRH stimulation test, significant change was not detected between pre- and post serum testosterone concentration (0.71 ng/ml vs 0.78 ng/ml). Case 3: During exploraparotomy, a right abdominal mass was attached to bicornuate organ considered uterus and right uterus horn was adhered to abdominal wall. Considering XX female chromosomal constitution, granulomatous ovary, uterus and male external genitalia, the patient was diagnosed of female pseudohermaphrodite.

CONCLUSION: XX sex reversed true hermaphrodites have normal female chromosomal constitutions and their gonads contain testicular tissue in various amounts. Female pseudohermaphrodite has a XX chromosomal constitution, ovaries, and masculinized external genitalia. Accurate categorization of the affected patient suspected of having a disorder of sexual development require gross and histopathologic examination of gonads, internal and external genitalia, reproductive hormone profile, and karyotyping. Gonadectomy and hysterectomy are recommended because these affected individuals may be developed testicular tumor or pyometra.

(3) M. Hubler, B. Hauser, V.N. Meyers-Wallen, and S. Arnold. SRY-negative XX true hermaphrodite in a basset hound. Theriogenology 1999; 51;1391-1403.