Bilateral anorchia in a dog
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An 11 month old male Cavalier King Charles Spaniel was evaluated at the University of Florida Veterinary Medical Teaching Hospital for second opinion examination of apparent bilateral anorchia. Subcutaneous, inguinal, or intra-abdominal testes or vasa deferentia were not found at exploratory laparotomy performed at nine months of age. Ultrasonography at ten months did not find evidence of gonadal tissue, prostate, or os penis. The dog was otherwise apparently healthy. The owners requested that only noninvasive procedures be performed. Testes were not identified in the scrotum or inguinal area. Micropenis was suspected based upon manual palpation through the prepuce. Per rectum examination of the caudal urethra did not identify a palpable prostate gland. Abdominal ultrasonography was performed. Testes were not found. A 6.9 mm structure consistent with the prostate was identified. A hypoechoic focus of 5.3 x 2.8 mm was identified, suggesting a possible uterine remnant. Caudal to the left kidney was a heterogeneous region of 1.3 x 0.9 cm that contained anechoic oval structures of maximal size of 4.3 x 2.9 mm, interpreted as possible ovarian or lymphoid tissue. Transcutaneous examination of the prepuce showed that an os penis was absent. Computed tomography of the abdomen and pelvis was performed in order to elucidate the potential structures identified on ultrasonography. Gonads (neither ovaries nor testes), os penis, prostate and uterus were absent. A caudal abdominal vena cava bifurcation anomaly, with branching between the left and right renal veins, was found. Inguinal lymph nodes were identified. Human chorionic gonadotropin stimulation with 200 units, im, was performed. Basal concentrations of progesterone, estrogen, and testosterone were low and stimulation was not elicited at 2 h. Normal male karyotype with no chimerism was found, as was normal presence of the sex determining region (SRY) gene and amelogenin. At 17 months of age, anti-Müllerian hormone was 0 pg/ml (reference range: > 90 pg/ml in intact dogs). Repeat human chorionic gonadotropin stimulation with 1,000 units, im, testing was performed with only testosterone assayed. Initial concentration was low and stimulation at 2 or 4 h did not occur. Confirmation of bilateral anorchia was made by means of noninvasive diagnostic testing and repeat exploratory laparotomy was avoided.

**Keywords:** Dog, bilateral anorchia, disorders of sexual development, anti-Müllerian hormone, computed tomography