Atypical presentation of granulosa-theca cell tumor in a broodmare

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Granulosa theca cell tumors (GTCT), originating from differentiated ovarian stroma, are the most common ovarian neoplasm in the mare.1 Granulosa theca cell tumors have various effects on cyclicity and behavior, depending on the hormones produced. Diagnosis is based upon reproductive history, endocrine profiles, and clinical findings such as transrectal palpation and ultrasonography. Definitive diagnosis is based on histopathological examination.

A 4-year-old maiden Quarter Horse mare, presented to the WSU-VTH theriogenology service for a 14 day pregnancy diagnosis in March 2008. Transrectal ultrasound revealed a cystic mass of 83.8 mm on the left ovary, containing a smaller 35 mm follicular structure. The right ovary was small and inactive. Results of serum endocrine profiling were as follows: testosterone 46.6 pg/ml, progesterone 0.1 ng/ml, and inhibin 0.57 ng/ml. These results were inconsistent with GTCT diagnosis.2 Repeated examinations demonstrated normal cyclicity of the right ovary with a prolonged interovulatory period and no changes in the left ovary. Due to concerns about permanent changes with possible affects on reproductive success, surgical removal of the left ovary was elected and ovariectomy performed via standing flank laparoscopy. Histopathology confirmed a diagnosis of GTCT. The mare was bred by live cover in February 2009 and pregnancy was diagnosed at 15 days. Progesterone levels were within normal range in the first 40 days. Pregnancy was evaluated at 60 days and again at 10 months.

This case report demonstrates the importance of serial monitoring of ovarian changes and good communication with owners regarding surgical options when a definitive diagnosis cannot be made based on a gold standard diagnostic technique in unusual cases of GTCT. It is critical that the owner understand the limitations of diagnostic techniques so that the best possible outcome may be achieved.

Keywords: Granulosa theca cell tumor, infertility, mare, neoplasia, ovary

References