Bilateral hydrosalpinx with elevated anti-mullerian hormone in a 5 year-old Belgian mare

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Importance
To date, there have been no reports of hydrosalpinx causing increased levels of anti-mullerian hormone (AMH). This case demonstrates a misdiagnosis of granulosa-theca cell tumor based on ultrasound and blood AMH levels, with a true diagnosis of bilateral hydrosalpinx upon abdominal laparoscopy.

Diagnostic approach and treatment
A 5 year-old Belgian mare was presented in April 2015 for a pregnancy examination. The owners had just purchased her with a history of pregnancy from a February 2016 breeding. Transrectal ultrasound revealed a non-pregnant uterus and with a 60 X 57 mm anechoic structure suspected to be on the left ovary and a 59 X 60 mm anechoic structure suspected to be on the right ovary. Due to the large size of the structures, it was difficult to confirm their tissue of origin. Deslorelin acetate (1mL IM) was given. Transrectal ultrasound rechecks over the next two weeks revealed that those structures only increased in size (>70mm X >70 mm bilaterally) despite additional deslorelin acetate (2 ml IM) administration. Blood AMH levels were 8.2 ng/mL (reference range: 0.1-3.8 ng/mL). The owner elected an exploratory laparoscopy in order to further evaluate the reproductive tract. A standing abdominal laparoscopy performed in September 2016 revealed both ovaries appeared grossly normal, with unremarkable fine-needle-aspirate results. However, the oviducts were enlarged and fluid filled (192mL and 142 mL aspirated from the right and left, respectively.) Cytology was consistent with cystic fluid with mild lymphocytic inflammation. Under laparoscopy, dinoprostone gel (approximately 1gm) was applied topically on the oviducts bilaterally.

Results and discussion
Two weeks post-operatively, the right oviduct appeared to be within normal limits but the left oviduct was fluid-filled on transrectal ultrasound. January 2017 examination findings were consistent with a cycling mare and bilateral fluid-filled oviducts. The owner is currently contemplating whether to pursue in vitro fertilization or salpingo-oophrectomy.

Keywords: Hydrosalpinx, anti-mullerian hormone, mare