Return to cyclicity after diagnosis of granulosa cell tumor in 16 month old Simmental heifer
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Abstract
A 16 month old Simmental heifer was presented with history of udder development and masculine behavior. A left ovarian mass was confirmed via transrectal palpation and ultrasonography revealed a 10cm by 7cm cavitated mass typical in appearance to a granulosa-theca cell tumor (GTCT) and an abnormally small right ovary. Granulosa-theca cell tumors are rare; one study of 1489 slaughter cattle showed GTCT incidence rate of 0.7% \(^1\) If present in bovine species it is more commonly reported in lactating dairy cattle and rarely in beef heifers.\(^2\)

Granulosa-theca cell tumors occur most commonly in equids which have a higher rate of return to fertility than bovids.\(^3\) Normal presentation of this tumor in cattle is similar to that seen in this heifer with the addition of nymphomania. Diagnosis, as in this case, is generally made through clinical signs, transrectal palpation, ultrasonography of the reproductive tract and confirmed with post-operative histopathology to determine if tumor was of granulosa or theca cell origin. Additionally clinical diagnosis may be confirmed through inhibin and testosterone concentration in the blood. Ovariecotmy is considered the treatment of choice for affected females. The affected ovary may be removed by either a colpotomy or a flank approach. In this case, a standard left flank laparotomy was chosen due to the size of tumor. Post-operative medications included antibiotics and anti-inflammatory therapy. There should be suspicion of these tumors if abnormal estrus, nymphomania or virilism is reported. Diagnosis is confirmed with hormone analysis and histopathology. This case allows a rare opportunity to study the pathology and treatment of these tumors and differentiation of granulosa versus theca cell tumors in beef cattle. Histopathology confirmed that this tumor was exclusively of granulosa cell origin. This heifer resumed to normal estrous cycles but was not fertile which further supports the theory that equids have a better prognosis for future fertility after tumor removal.

References