Metastatic neoplasia in a postpartum Holstein heifer
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Dairy cow postpartum programs identify common health problems; however, they have limitations as to timely diagnosis of uncommon diseases. A 24 month old Holstein heifer delivered a healthy calf on day 274 of gestation. Reproductive evaluation 25 days postpartum demonstrated a non-retractable reproductive tract with cervical and uterine adhesions; at 32 and 46 days postpartum progressive enlargement of the uterus was noted. Ultrasonography showed fluid and fibrin within the abdomen. The heifer developed signs of respiratory disease, fever, decreased milk production, and loss of body condition. No clinical improvement was seen despite anti-inflammatory and antimicrobial therapies. Examination 53 days postpartum confirmed previously noted adhesions and a 30 cm diameter mass associated with the reproductive tract. Ultrasonography demonstrated numerous 2.0-5.0 cm diameter, fluid-filled structures throughout the peritoneal cavity. Due to clinical findings and health deterioration of the animal, euthanasia was elected.

Necropsy findings identified metastatic neoplasia involving the serosa of abdominal viscera and parenchyma of mediastinal and perirenal lymph nodes. Ovaries were not readily identified. Serology for bovine leukosis virus was negative. Microscopically, masses consisted of round neoplastic cells in dense sheets, spindle-shaped cells, and multinucleate giant cells, which were positive for vimentin but negative for cytokeratin, lysozyme, and CD68 via immunohistochemistry. Findings were consistent with disseminated histiocytic sarcoma.

This case is relevant to theriogenologists as it highlights the importance of postpartum evaluation programs to identify and address pathologies. However, animals which do not respond to treatment protocols for common diseases should be further evaluated. In this case, the heifer was treated for infectious respiratory disease when a mediastinal neoplastic mass was compressing the lungs. Only identification of reproductive tract abnormalities indicated a need for further evaluation. Finally, this case raises questions about the interrelationship between pregnancy and development or rate of progression of neoplasia, a topic which warrants further investigation.

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