

Uterine leiomyoma in a pregnant sow

Doris M. Miller, DVM, PhD; Hugh T. McDaniel†, DVM

Summary: A 5-year-old multiparous sow was examined because of weight loss and persistent abdominal enlargement following parturition. The sow had farrowed normally 1 week previously. She had developed anorexia and agalactia but did not have fever or vaginal discharge, and continued to have a distended abdomen. Euthanasia of the sow and necropsy revealed a 45-kg mass involving only one uterine horn. The incidence, cause, and differential diagnosis for uterine leiomyoma is discussed.

Uterine leiomyomas are common in women, and are frequently seen in the bitch, cow, and cat, but they are rare in swine.¹⁻³ They must be differentiated from abscesses and granulomas.³ Leiomyomas are benign, firm, tan-colored tumors of smooth muscle.⁴ The cause of leiomyomas is poorly understood, but growth of the tumor is stimulated by estrogen and perhaps by growth hormone, whereas progesterone may have an inhibitory effect.⁵ This case describes a normal parturition with complications associated with a uterine leiomyoma.

Case description

A 5-year-old, 250-kg multiparous sow was examined by the College of Veterinary Medicine Herd Health group because of weight loss and persistent abdominal enlargement. One week previously, the sow had given birth to five live and three stillborn pigs. Due to her anorexia and agalactia postfarrowing, the sow's pigs had been cross-fostered to another sow. Physical examination of the sow revealed a normal temperature, a tightly distended abdomen, and no vaginal discharge. The animal was euthanized because the clinician suspected peritonitis due to a possible retained dead fetus and ruptured uterus. At necropsy, an oval, 45-kg mass was found in the wall of one uterine horn. The mass was firm, solid, tan-white, and did not occlude the uterine lumen. Histologic examination of the uterine mass revealed a leiomyoma. Nuclei were oval with rounded ends, and had a low mitotic index. Focal areas of necrosis were noted in the tumor. No other abnormalities were found within the reproductive tract of the sow.

DMM: Athens Veterinary Diagnostic Laboratory, HTM: Department of Large Animal Medicine College of Veterinary Medicine, University of Georgia, Athens, Georgia 30602.

† Deceased

Discussion

A pedunculated uterine leiomyoma was recently reported in a 6-year-old miniature pig with a history of depression and abdominal distention.¹ In our sow there were no other abnormalities seen in the ovaries or uterus, while in the miniature pig, diagnosticians reported cystic ovaries and cystic endometrium.¹

The signs associated with uterine leiomyomas depend on the size, number, and location of the tumors.⁵ Most uterine leiomyomas grow slowly and are clinically inapparent.⁵ In the present case, the sow had been pregnant, had a normal parturition, but had abdominal distention after parturition. In humans, uterine leiomyomas often regress after parturition.⁵ How long the uterine tumor had been present in this sow is not known. The sow had been clinically normal prior to this pregnancy and had returned to her original prepregnancy weight after each preceding parturition, which would indicate that it was a recent problem. The large size of the leiomyoma in this sow was the cause of the clinical signs and abdominal distention. In older sows with signs of abdominal distention and anorexia, a uterine leiomyoma should be included in the differential diagnosis. Successful removal of a uterine leiomyoma and return to normal reproductive status has not been reported in swine, but has been reported in humans.⁵ Due to the large size of the mass in this sow and her age, surgery to remove the mass and return the sow to the herd was not feasible. Ultrasound examination of the abdomen and bloodwork (profile and a CBC) may have helped to rule out endometritis in this animal. Surgery, necropsy, or slaughter would be needed for a definitive diagnosis between tumor, abscess, or granuloma.

References

1. Senter LH. Abdominal mass in a Sinclair (S1) miniature pig. *Lab Anim.* 1993;Sept: 19-20.
2. Edwards MJ, Mulley RC. Genetic, developmental, and neoplastic diseases. In: Leman AD, Straw BE, Mengeling WL, D'Allaire S, Taylor D, eds. *Diseases of Swine*. 7th Ed. Ames, Iowa: Iowa State University Press, 1992;704-706.
3. McEntee K, ed. *Reproductive Pathology of Domestic Mammals*. New York, NY: Academic Press, 1990.
4. Nielsen SW, Misdorp E, McEntee K. Tumors of the ovary. *Bull World Health Organization* 1976;534:219-220.
5. Moghissi KS. Hormonal therapy before surgical treatment for uterine leiomyomas. *Gynecol and Obstet.* 1991;172:497-502.

