Case Report

Vaginal lipoma with cervicovaginal and rectal prolapse in a cow

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Abstract

A 5-year, mixed breed cow, was presented with cervicovaginal and rectal prolapses. Cow had a vaginal mass on the left caudal aspect of cervicovaginal prolapse. Rectal prolapse was resolved; however, vaginal mass prevented reduction of vaginal prolapse. Next day, vaginal mass was resected that made vaginal prolapse reduction and vulval closure (Bühner stich) possible. Histopathology identified the mass as infected vaginal lipoma.

Keywords: Cow, prolapse, lipoma, vagina

Background

Lipoma is a benign tumor that occurs as a result of fat accumulation in various parts of body affecting normal function of affected organs.[1] However, in cows, vaginal lipomas have not been reported as a common pathology. Vaginal lipoma, reported in a cow, was suggested as a possible cause of dystocia.[2] Vaginal eversion (commonly known as vaginal prolapse) is associated with several factors (breed, estrous cycle stage, diet, perivaginal fat accumulation, and others). Vaginal or cervicovaginal prolapse is more common in pregnant cows, months or weeks before parturition.[3] Vaginal prolapses are classified into 4 grades, depending on the severity, chronicity, and inclusion of cervix.[3] As a consequence of chronic straining rectal prolapse ensues. Rectal prolapse is classified into 4 grades, depending on the anatomical/structural involvement.[4] In the present case, pedunculated tumor in the vagina resulted in vaginal and rectal prolapses and prevented reduction of vaginal prolapse.

Case presentation

A 5-year, mixed-breed cow, was presented with cervicovaginal and rectal prolapse. Cow was bright, alert, and responsive; vital parameters (prolapse prevented obtaining rectal temperature) were within normal limits. Cow had a body condition score of 8 out of 9 and weighed 400 kg. A month before, owner noticed a mass in the caudal vaginal aspect. Cow had 2 calves and the last calving was 6 months ago. As per owner, cow was not bred after last calving, was not current on vaccines, and was dewormed (pour on dewormer) 7 months ago. Cow was with 4 other cows and a bull was in pasture.

Cow was restrained in a chute, both prolapses (Figure 1) were washed with water and dilute iodine solution. Rectal prolapse (Grade II) was first resolved. Cervicovaginal prolapse (Grade III, protrusion of vagina and cervix[3]) was properly visualized to identify the vaginal mass. Rectal and reproductive tract tissue were mildly affected but still viable. Cow was able to urinate and defecate.

Treatment

High epidural (between last sacral and first coccygeal vertebrae) was performed with 5 ml of lidocaine before resolving (via manual reduction) rectal prolapse. Once rectum was returned to its normal position, using umbilical tape, purse-string suture (Figure 2) was placed on the skin around anal opening.

Despite several attempts, resolving cervicovaginal prolapse was unsuccessful because of vaginal mass. Cow received antibiotics (6.6 mg/kg crystalline ceftiofur) subcutaneously (base of ear; based on proven efficacy for reproductive tract via this route[5]). Intravenous flunixin meglumine (1.1 mg/kg) was given.

Next day, a 12 x 8 cm mass was removed surgically. Cow was held in headlock, regional anesthesia was applied, and sedation was performed via caudal tail vein with 1 ml (10 mg/ml) acepromazine. Cow also received 7 ml of mepivacaine

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Figure 1. Rectal and cervicovaginal prolapses.

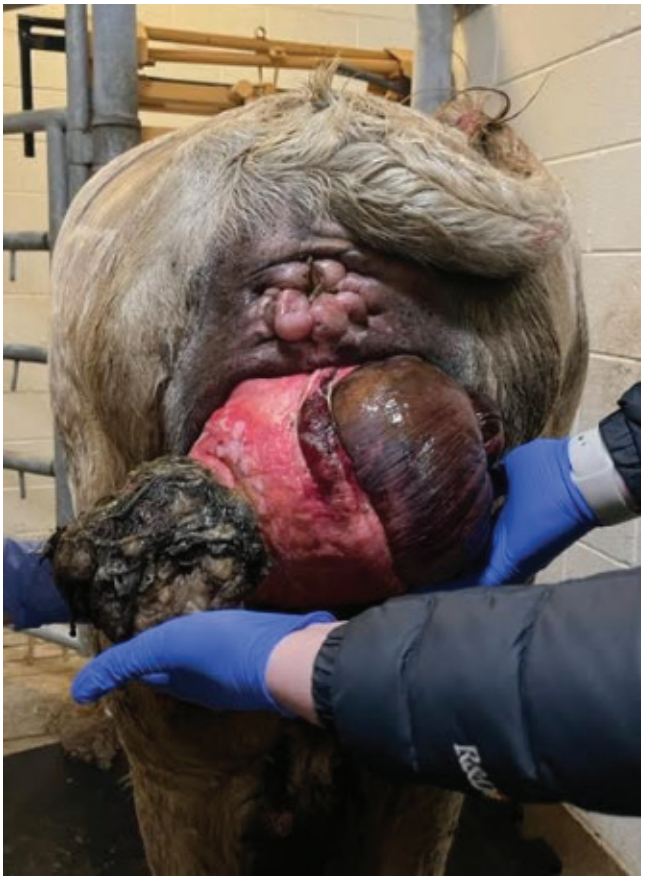

Figure 2. Resolved rectal prolapse.

hydrochloride via high epidural. Surgical drape was placed over hindquarters and a window was created in the drape to expose the cervicovaginal prolapse. Prolapsed mass was thoroughly cleaned with iodine scrub. Foley urinary catheter was placed and the balloon was inflated. Line block was performed with lidocaine around the mass and in surrounding healthy tissue. Mass was dissected using electrocautery and removed by blunt dissection with doyen scissors. Remaining abnormal tissue was removed with a scalpel. Most likely differentials for this mass were various neoplasia, lipoma, or polyp.

During surgery, bleeding was controlled by simple circumferential ligatures using 2-0 tapered absorbable monocryl and electrocautery. After vaginal mass removal, area was flushed with sterile water. Margins of the incision was closed (interrupted horizontal mattress pattern followed by several cruciate and simple interrupted patterns with 2-0 tapered absorbable monocryl). Because of immediate cervicovaginal prolapse reduction was not possible, a compressive bandage of vetwrap and elastikon was placed overnight around the cervicovaginal prolapse. Cow received another dose of intravenous flunixin meglumine (1.1 mg/kg). Next day, substantial reduction in inflammation of the prolapse was noticeable. Manual reduction was performed under low epidural block (5 ml of mepivacaine hydrochloride). Bühner stich (Figure 3) was applied with umbilical tape to prevent recurrence of prolapse.

Outcome

Next day, cow was discharged with oral meloxicam (1 mg/kg, once a day for 1 week). Histopathological diagnosis of the mass was vaginal lipoma with secondary infection. Owner was reached after 5 days; owner mentioned that the cow was grazing in the field with others in the herd. It was recommended to watch for any vulvar discharges, behavior change, inappetence, lethargy, straining, or any sign of discomfort with the possibility of suture removal in 2 weeks.

Discussion

Vaginal lipomas in cattle have been reported once in a 5-year, Friesian-Holstein cow.[2] Although tumors of cows' genital organs have low prevalence, it does occur and most common vaginal tumor being fibropapilloma.[6,7] Other tumors diagnosed were leiomyomas, leiomyosarcomas, fibromas, fibrosarcomas, fibroleiomyosarcomas, and squamous cell carcinomas.[6]

Early diagnosis and treatment provide better prognosis. Surgical resection is recommended for vaginal tumors.[7] Even though a vaginal lipoma may or may not interfere directly with fertility, it could be a cause of dystocia or vaginal/cervicovaginal and rectal prolapses.

Learning points

- Complete examination of the reproductive tract should be performed in prolapse cases
- Vaginal tumors require surgical resection and histopathology analysis is necessary for final diagnosis

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Figure 3. Resolved cervicovaginal prolapse.

- Depending on the size and location of vaginal lipoma(s), resulting abnormal pressure to reproductive tract and constant straining might result in vaginal and rectal prolapses

Conflict of interest

None to report.

References

1. Hendrick MJ: Mesenchymal tumor of the skin and soft tissues. In: Meuten DJ: editor. Tumors in Domestic Animals. Hoboken; John Wiley & Sons: 2020. p. 158-159. ProQuest Ebook Central. Available from: https://ebookcentral.proquest.com/lib/utk/detail.action?docID=4737344 [cited 30 April 2024].
2. El-Maghraby HM: A retrospective study on some surgical affections of the perineum and vagina in farm animals. Zag Vet J 2002;30:84-100.
3. Peter AT, King EH: Management of vaginal, cervico-vaginal, and uterine prolapse. In: Hopper RM: editor. Bovine Reproduction, 2nd edition, Hoboken; John Wiley & Sons: 2021. p. 563-566. Companion website. Available from: www.wiley.com/go/hopper/bovine [cited 30 April 2024].
4. Anderson DE: Rectal prolapse. In: Food Animal Practice, 5th edition, Amsterdam; Elsevier: 2009. p. 125-128.
5. Risco CA, Youngquist RS, Shore MD: Postpartum uterine infections. In: Youngquist RS, Threlfall WR: editors. Current Therapy in Large Animal Theriogenology, 2nd edition, Amsterdam; Elsevier: 2007. p. 341-342.
6. Martz P, Oezcan-Martz A, Bittner L, et al: Case reports of genital tract tumours in cows. Vet Med-Czech 2020;65:401-408. doi: 10.17221/124/2020-VETMED
7. Musal B, Ulutas P, Aydogan A: Vaginal fibrosarcoma in a cow. Ir Vet J 2007;60:424-425. doi: 10.1186/2046-0481-60-7-424. PMID: 21851697; PMCID: PMC3113825.