Acta Veterinaria Hungarica 52 (1), pp. 47–50 (2004)

SUCCESSFUL SURGICAL REMOVAL OF FIBROMA FROM THE UTERUS OF A COW: A CASE REPORT

G. N. PUROHIT[1*], D. KUMAR[1], N. GARG[1], R. C. YADAV[1] and H. DADHICH[2]

[1]Department of Animal Reproduction, Gynaecology and Obstetrics and
[2]Department of Veterinary Pathology, College of Veterinary and Animal Science,
Rajasthan Agricultural University, Bikaner, Rajasthan 334001, India

(Received February 24, 2003; accepted June 19, 2003)

A Holstein-Friesian cow aged 6 years aborted twice at 3–4 months of gestation. On rectal palpation a growth was palpable in the apex of one uterine horn. The growth was removed by right flank laparotomy under sedation and paravertebral nerve block. The growth was diagnosed to be a fibroma. The cow conceived and calved normally after the operation.

Key words: Cow, fibroma, flank laparotomy

Tumours of the uterus are rare in cattle. Most reports involve slaughterhouse material. Lagerlof and Boyd (1953) found from postmortem examination of over 6000 cows that the incidence was only 0.69% and the most common tumour types were leiomyoma, fibroma, adenocarcinoma and lymphosarcoma. In another study by Anderson and Davis (1958) adenocarcinomas were found to show a higher incidence. In a more recent study Garcias-Iglesias (1995) recorded an incidence of uterine tumours to be 0.4% with 50% being adenocarcinomas and 50% leiomyomas. The aetiology of tumours is a subject of study and increased hormonal levels is one assorted reason (Yamate et al., 1998; Liehr, 2001) besides chronic irritation, heredity and carcinogens (Boyd, 1956). On rectal palpation of nonpregnant cows, larger uterine tumours may be confused with a mummified fetus. Adenocarcinomas may ulcerate, resulting in a bloody discharge from the uterus, especially during oestrus. Fibromas and leiomyomas may be felt on rectal palpation as single, round, firm structures and are usually benign. Cows having uterine tumours may become pregnant and carry pregnancy to full term. In the present report a growth in the uterus of a cow was removed through laparotomy and diagnosed to be a fibroma.

A Holstein-Friesian cow aged 6 years was presented to the clinic with a history of repeated abortion on two occasions at 3–4 months of gestation. The animal had been inseminated with frozen semen from different bulls during these pregnancies. On rectal palpation a growth was palpated at the apex of the right

*Corresponding author; E-mail: gnpvog@yahoo.co.in; Fax: 0091 151 2250336

uterine horn. On two consecutive examinations at an interval of 20 days the growth was found to persist and was of the same size. No abnormality was palpable on either of the ovaries. Cervicovaginal mucus examination revealed a normal consistency and absence of trichomonads. Trichomonads could neither be found on culture of uterine secretion on tobies culture according to a previously described method (Chaturvedi, 1997). Since no other pathology could be traced, it was decided to remove the growth which could possibly hinder the growth of the fetus after the 3rd or 4th month of gestation.

The animal was fasted for 24 h and restrained in standing position. An area of 20 cm^2 was prepared by shaving and scrubbing the right flank. The animal was administered 0.75 ml xylazine (Xylocad, Cadila, India) i.m. for sedation and local paravertebral nerve block was performed by injecting 60 ml lignocaine HCl (Astra IDL, India) between the 1st and 2nd and 2nd and 3rd lumbar vertebrae. Thirty ml lignocaine was also infused subcutaneously. A skin incision was made and the muscles were separated by blunt dissection. The peritoneum was then grasped by tissue forceps and incised. The hand was inserted into the abdominal cavity and the uterine horn with the growth was lifted into the wound (Fig. 1). The uterus was opened and the growth was removed after careful separation from the surrounding tissues. There were little attachments of the growth with the uterine tissue. The uterus was sutured with chromic catgut and placed back. The peritoneum, muscles and skin were sutured by standard surgical procedure. Postoperatively the animal was administered procaine penicillin (Alembic Vet. Division, Vadodara, India) – 40 lac IU, i.m. and diclofenac sodium (Verastan, Ranbaxy Labs, India) – 375 mg i.m. for 5 days. Skin sutures were removed on day 7 after the operation, with an uneventful recovery.

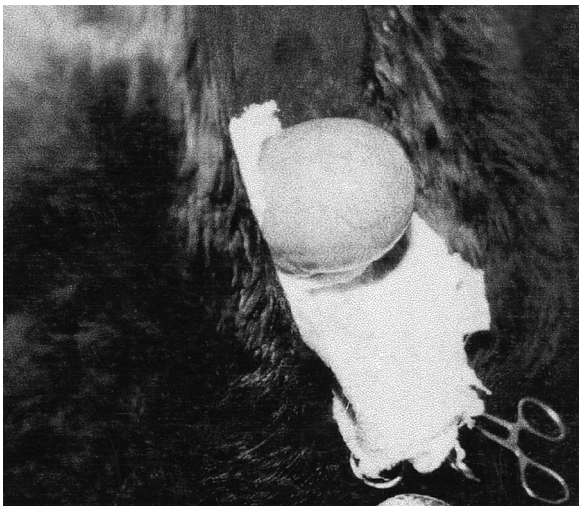

Fig. 1. The uterine horn with the growth exposed on laparotomy

The animal showed oestrous signs with cervicovaginal mucous discharge as early as on day 4 after the operation and the uterus had no adhesions on palpation on postoperative day 10. For two consecutive oestrous cycles (20–22 days interval) the animal was not bred to allow sufficient time for regaining normal uterine functions. Subsequently, the cow was inseminated with frozen semen. The animal conceived and calved normally.

The growth was 8.5 cm in length (Fig. 2) and weighed 109 g. Histopathological tissue samples were fixed in 10% formal saline, processed for paraffin embedding by acetone and benzene technique. Sections of 5 μm were cut and stained with haematoxylin and eosin. On longitudinal section cutting irregular wavy bands of a glistening white colour were visible. Microscopically, the section showed interlacing bundles of fibrocytes and collagen fibres. The tumour cells were spindle shaped and had large elongated nuclei characteristic of fibroma (Fig. 3).

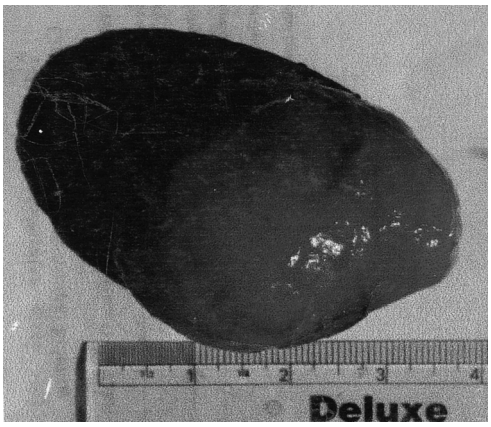

Fig. 2. Fibroma removed from the uterus

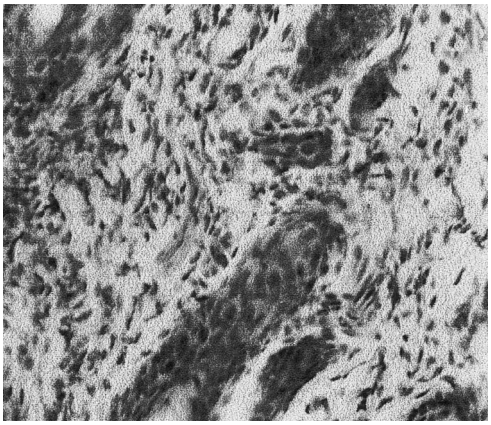

Fig. 3. Microscopic appearance of the fibroma

There is a report on removal of a unilateral swelling by aspiration through laparotomy (Leonard, 1997) but reports similar to the present one cannot be found in the literature. The presence of a growth near the uterotubal junction may sometimes occlude the lumen and prevent conception; however, in the present case the tumour was located away from the uterotubal junction and only hindered progression of pregnancy beyond 3–4 months. It is concluded that rectal palpation of a hard structure within the uterine horns of cows should arouse suspicion about the presence of a tumour (like fibroma). If the tumour is not increasing progressively in size, its surgical removal through a flank laparotomy must be considered seriously as it may hamper pregnancy.

References

Anderson, W. A. and Davis, C. L. (1958): In: Gassner, F. X. (ed.) Reproduction and Infertility 3rd Symposium. Pergamon Press, New York.

Boyd, W. (1956): A Textbook of Pathology. Lea and Febriger, Philadelphia, USA. pp. 234–239.

Chaturvedi, R. K. (1997): Studies on blood biochemical profile, microbial spectrum and chemotherapy in repeat breeder Rathi cows and their crosses. M.V.Sc. Thesis, Rajasthan Agric. University, Bikaner, Rajasthan, India.

Garcias-Iglesias, M. J., Bravo-Moral, A. M., Perez-Martinez, C., Ferreras-Estrada, M. C., Martinez-Rodriguez, J. M. and Escudero-Diez, A. (1995): Incidence and pathomorphology of uterine tumours in a cow. Zbl. Vet.-med. A, **42,** 421–429.

Lagerlof, N. and Boyd, H. (1953): Ovarian hypoplasia and other abnormal conditions in the sexual organs of cattle of the Swedish Highland breed: Results of post mortem examination of over 6000 cows. Cornell Vet. **43,** 64–66.

Leonard, D. (1997): Unilateral uterine swelling in a cow. Vet. Rec. **141,** 316.

Liehr, J. G. (2001): Genotoxicity of the steroidal oestrogens oestrone and oestradiol: possible mechanism of uterine and mammary cancer development. Human Reprod. Update **7,** 273–281.

Yamate, J., Tsujino, K., Kumagai, D., Sato, K., Tsukamoto, Y., Kuwamura, M., Kotani, T., Sakuma, S. and LaMarre, J. (1998): Influence of progesterone and oestrogen on growth and morphology of a transplantable rat uterine smooth muscle tumour (SMT-Y). J. Comp. Pathol. **119,** 443–457.