# ENDOMETRIAL STROMAL SARCOMA IN AN ABATTOIR GENITALIA OF A BUFFALO (*BUBALUS BUBALIS*) *

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Received : 11.05.2012

## ABSTRACT

Accepted : 17.09.2012

A case of Endometrial Stromal Sarcoma in an abattoir genitalia of buffalo has been reported.

Key words: Endometrial stromal sarcoma, Buffalo, Uterine tumours, Abattoir genitalia

Infertility in bovines could be attributed to a number of conditions affecting the genital tract like hormonal disturbances, infectious diseases, nutritional causes, congenital and other pathological conditions. Though uterine tumours as one of the cause of infertility was established long back, attention was not paid on this subject. Generally incidence of endometrial stromal sarcoma in animals is rare. Individual case of stromal sarcoma in chimpanzee (Toft and Mac Kenzie, 1975) and cat (Daniel *et al.* 2009) was reported. In the present report, a case of endometrial stromal sarcoma observed in abattoir buffalo genitalia was described.

A total of 73 genitalia of Murrah graded buffaloes were collected from slaughter house located at Vijayawada in Krishna District of A.P. Genitalia were kept in individual self locking polythene covers to avoid mixing of secretions between genitalia and transported to laboratory in air tight container within 15-24 hours by maintaining cold chain. On receiving at the laboratory genitalia were examined for gross morphological changes. After incising the horns impression smears for cytological examination were obtained, fixed and stained with Leishman's stain. Representative tissue samples for histopathological studies were fixed in 10 *per cent* buffered formalin and processed for histopathological examination. Four to six microns thickness sections were made and stained with haematoxylin and eosin (Brar *et al.*, 2002) and AgNOR (Krishnamurthi and Paliwal, 1998). AgNOR counts were determined by making use of computer aided microscopic image analysis system (KS 300 image analysis system, Zeiss/Knotron, Germany) at Madras Veterinary College in Chennai. The statistical analysis of the data was done by adopting computer soft ware programmed for windows XP (Version 9.0, spss Inc. Munich), Excel (Version 2003, Microsoft).

Endometrial stromal sarcoma was noticed in 1.36% genitalia (1/73). Grossly no tumour mass was observed. Cytopathology revealed no characteristic features. Histopathological examination revealed angiogenesis, atrophied endometrial glands and proliferation of ovoid and fusiform mesenchymal cells arranged in the form of sheets in haphazard manner having scant basophilic cytoplasm. In addition focal whorl formation around arterioles was noticed (Figure). Similar observations were reported by Toft and Mac Kenzie (1975) in Chimpanzee and Daniel *et al.* (2009) in cat. Further, Toft and Mac Kenzie (1975) noticed infiltration of pigment laden macrophages throughout the lesion. In the current study the mean AgNOR count was 3.08 in normal genitalia and 6.29 in endometrial stromal sarcoma and differed significantly ($P < 0.05$). In women, histologically endometrial stromal sarcoma is distinguished into two types *viz.*, low grade endometrial stromal sarcoma and

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undifferentiated stromal sarcoma. Low grade endometrial stromal sarcoma presented minimal cellular atypia and few mitotic figures, while undifferentiated stromal sarcoma expressed marked cytological atypia and frequent atypical mitotic figures (Jiménez- Ayala and Jiménez- Ayala Portillo). The present case has the features of low grade endometrial stromal sarcoma.

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**FIGURE : ENDOMETRIAL STROMAL SARCOMA: NOTE PROLIFERATIVE FUSIFORM STROMAL CELLS WITH SCANT CYTOPLASM SHOWING WHORL FORMATION AROUND ARTERIOLES – H&E X 280**