

UTERINE CARCINOSARCOMA IN *Bubalus bubalis*K. Anusha<sup>1</sup>, K. Mouli Krishna<sup>2</sup> and Ch. Srilatha<sup>3</sup>**ABSTRACT**

Carcinosarcoma was noticed in 1.36% slaughter house genitalia (1/73). In cytological smears, numerous plump fibroblasts and malignant glandular epithelial cells with several nucleoli were observed. The mean AgNOR count was significantly higher in carcinosarcoma than normal genitalia ( $P \leq 0.05$ ). Histoathological studies confirmed carcinosarcoma.

**Keywords:** infertility, female, buffalo, uterine tumour, carcinosarcoma

**INTRODUCTION**

Infertility in bovines could be attributed to a number of conditions affecting the genital tract. Though uterine tumours as one of the causes of infertility were identified long back, attention was not paid in this direction. An optimum uterine milieu essentially creates favorable conditions for normal growth and development of embryos leading to good fertility. Uterine tumours may alter the uterine milieu by affecting uterine functions and thus jeopardize fertility. In this report a case of

carcinosarcoma, a mixed malignant tumor observed in slaughter house buffalo genitalia is described.

**MATERIALS AND METHODS**

A total of 73 genitalia of Murrah graded buffaloes were collected from a slaughter house located at Vijayawada of Krishna district in Andhra Pradesh, India. Genitalia were kept in individual self-locking polythene covers to avoid mixing of secretions between genitalia and transported to laboratory in an air-tight container within 15-24 h by maintaining cold chain. Upon receiving in the laboratory, genitalia were examined for gross morphological changes. After incising uterine horns impression smears for cytological examination were obtained, fixed and stained with Leishman's stain. Representative endometrial tissue samples were fixed in 10 percent buffered formalin and processed for histopathological studies. Four to six micron 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, Zeiss/Knotron, Germany). Statistical

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analysis of the data was done by adopting computer software programmed for Windows XP (Version 9.0, spss Inc. Munich), Excel (Version 2003, Microsoft).

## RESULTS AND DISCUSSION

Carcinosarcoma was noticed in 1.36% genitalia (1/73). Grossly, no abnormality was observed except uterine wall thickening. The ovaries were smooth and no appreciable structures were noticed. Cytological studies revealed numerous plump fibroblasts and malignant glandular epithelial cells with several nucleoli. Histopathologically, massive infiltration of fusiform neoplastic cells with oval nucleus, moderate eosinophilic cytoplasm was observed in lamina propria and submucosal areas. The glandular epithelium showed marked proliferation with anisocytosis and anisokaryosis with prominent nucleoli. Both epithelial and

mesenchymal components showed malignant features (Figure 1). In the literature, Bedenice *et al.* (2000) reported similar features of carcinosarcoma in a sow. The mean AgNOR count was 3.08 in normal genitalia and 5.26 in carcinosarcoma and differed significantly ( $P \leq 0.05$ ). Carcinosarcomas are subclassified into homologous and heterologous. In homologous tumors, the sarcomatous element consists predominantly of spindle, round or giant cells, whereas heterologous tumors contain striated muscle, bone or cartilage which is foreign to the uterus (Silverberg and Kurman, 1992). The present case was of the homologous type where the sarcomatous elements were spindle-shaped cells.

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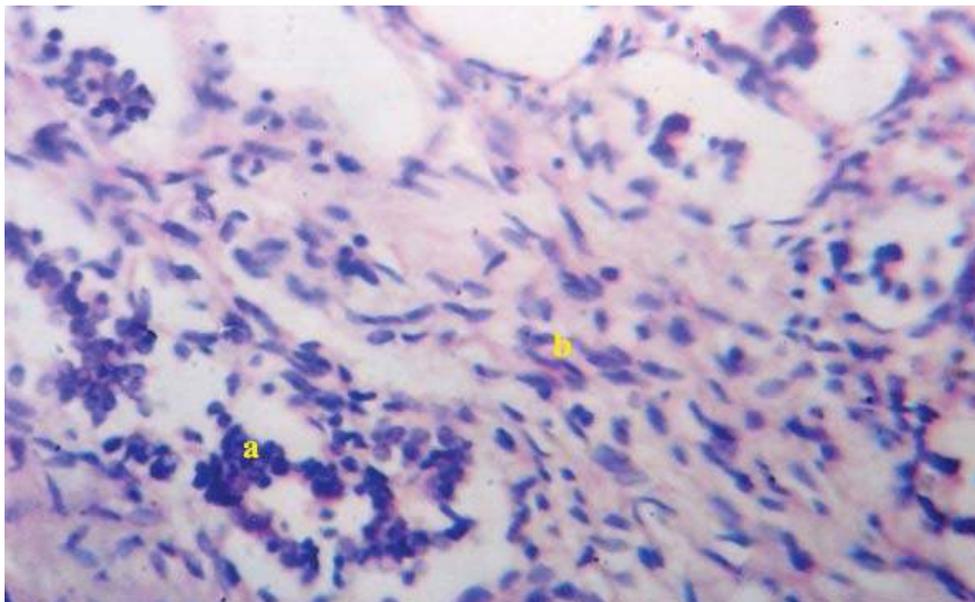


Figure 1. Carcinosarcoma of uterus. Note the irregular proliferation of glandular epithelial cells (a) and supportive connective tissue stroma (b) - H&E X 280

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