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Ovarian tumours in buffaloes (*Bubalus bubalis*)

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ABSTRACT

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Ovaries from 200 buffaloes were collected from slaughter house showed different types of tumours: granulosa cell tumour 3 (1.5%), thecoma 1 (0.5%), fibroma 1 (0.5%) and teratoma 1 (0.5%). The macroscopic and histopathological changes in ovaries having neoplastic conditions were described and discussed.

Key words: Buffaloes, histopathology, incidence, ovaries, tumours

Diagnosis and treatment of reproductive diseases in buffaloes contribute a major share of the veterinary care provided to the dairy industry. Ovarian pathology is responsible for a great number of long standing infertility problems in buffaloes[2]. Little is known about the incidence of different types of tumours in ovaries of buffaloes that can lead to anoestrus and infertility problems. This communication describes the incidence, gross and histopathological findings of certain ovarian tumours in buffaloes.

Altogether both the ovaries from 200 buffaloes were collected in 10% formol saline from slaughterhouse of Nagpur. The ovaries showing gross lesions were subjected for further histopathological examination[3].

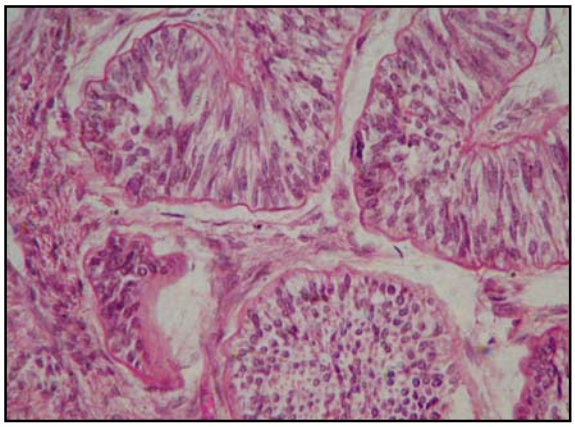

Fig. 1: Cord like arrangement of neoplastic granulosa cells. H.E. x 200.

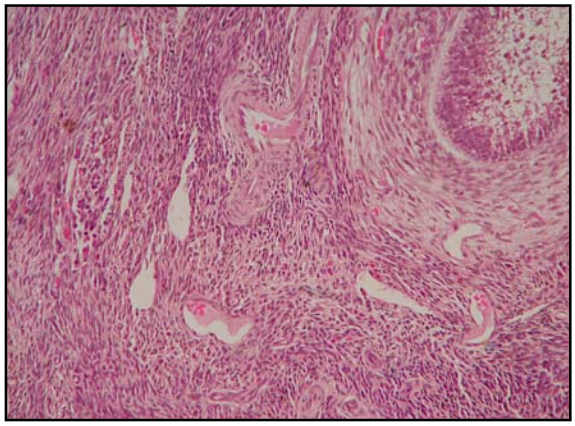

Fig. 2: Thecoma showing mixture of plump spindle shaped cells and fibroblasts. H.E. x 200.

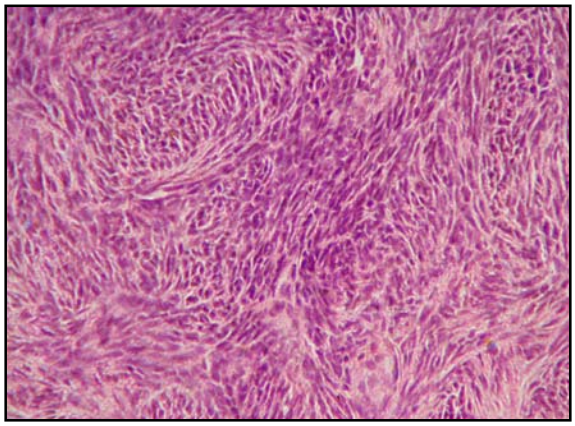

Fig. 3: Fibroma showing irregularly arranged spindle shaped cells. H.E. x 200.

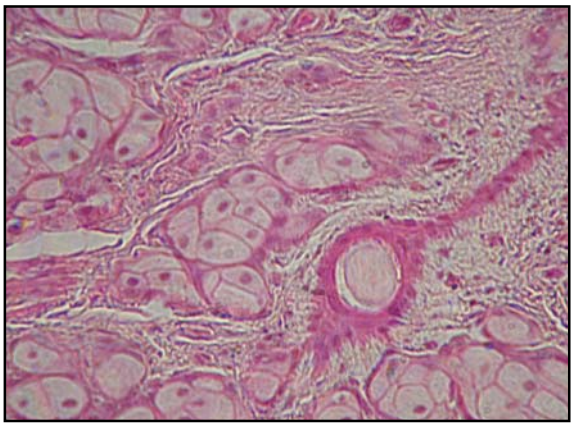

Fig. 4: Ovarian teratoma showing underlying sebaceous glands and hair follicles. H.E. x 400.

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The ovaries from these 200 buffaloes were examined grossly and microscopically. Six buffaloes showed

incidence of different types of ovarian tumours which were unilateral. These included: 3 (1.5%) granulosa cell tumour, 1 (0.5%) thecoma, 1 (0.5%) fibroma and 1 (0.5%) teratoma. The ovaries having granulosa cell tumours appeared slightly bigger than normal ovaries in size and were misshapen. On incision, they showed small solid white structures in the cortex and cystic areas. Microscopically, the neoplastic granulosa cells were found arranged in solid sheets interspersed with haemorrhages. In some places, there was an irregular accumulation of granulosa cells separated by supporting stroma with disorganized attempts at follicle formation while some places showed cord like arrangement of neoplastic granulosa cells (Fig.1)[4].

In the case of thecoma, ovary appeared normal in size, roughly spherical in shape and hard in consistency. Microscopically, the ovarian stroma revealed unencapsulated areas composed of mixture of well differentiated plump-spindle shaped cells and fibroblasts (Fig.2). Pure thecomas are rare and mostly contain a mixture of fibroblasts and more plump-spindle cells[1].

In the case of fibroma, the ovary was of normal size but had irregular surface and firm in consistency. Histologically, it showed plenty of spindle shaped cells arranged irregularly and the ovarian stroma was occupied by interlacing bundles of mature fibrous connective tissue (Fig.3).

One case of teratoma in ovary showed unilateral cyst with a diameter of 4.5 cm. On incision, it showed greyish cheesy material and hairs. Microscopically, the ovarian mass was composed of a wide variety of mature tissues foreign to the ovary and diffusely scattered. The cyst was lined by stratified squamous keratinized epithelium with underlying sebaceous glands and hair follicles (Fig.4). In certain places the areas of necrosis and degeneration was also evident. Teratomas are derived from the ectodermal differentiation of totipotential cells[1].

From the present study, it can be concluded that the granulosa cell tumour having the incidence of 1.5% is the most common ovarian tumour reported among the buffaloes, while the incidence of other ovarian tumours i.e. thecoma, fibroma and teratoma appeared to be low (0.5%).

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