

INCIDENCE OF PATHOLOGICAL CONDITIONS OF OVARIES OF BUFFALOES*

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The aim of the study was to document the incidence of pathological lesions in the ovaries of buffalo genitalia collected from slaughter house.

Materials and Methods

425 genitalia of non-descript buffalo cows aged 4 to 10 years with no breeding history were procured from the abattoir in and around Tirupati for the present study. Gross examination of the genital system of buffaloes was done within 4 hours after slaughter. The ovaries were examined whole and by making incisions lateral and parallel to the ovarian midline. Representative samples of tissues were collected from the ovaries and fixed in 10% formal saline. The tissues were processed by paraffin embedding technique. Sections of 5-6 micron thickness were made and were stained by Haematoxylin and Eosin technique (Luna, 1968). Van-Gieson's and Azan's Trichrome methods were also employed as special stains where ever necessary. The percentage incidence of various pathological lesions of the ovaries were analyzed.

Results and Discussion

Of the total 425 genitalia examined, 76 (17.88%) genitalia with various

pathological conditions of the ovary were observed.

The most common pathological conditions encountered in the present study were follicular cysts and atretic follicles followed by oophoritis, para-ovarian cysts and ovarobursal adhesions. The incidence of bilateral ovarian hypoplasia with underdeveloped genitalia was 0.71%.

The incidence of para-ovarian cysts was 1.65% and was in agreement with reports of Bukhan (1970) and Sharma *et al.* (1993), these cysts are vestiges of Wolffian duct and may cause mechanical hindrance to ovulation. Incidence of oophoritis was 2.35% and was noticed more in the right ovary as noted by Bukhan (*loc.cit.*). The cause might be attributed to general or local infection. A case of polyoogonia was observed (0.24%) and no specific reports on the incidence of polyoogonia in buffaloes are available in the published literature.

Lesions of atretic follicles were noticed in 12 (2.82%) cases and were in agreement with Sujata *et al.*, (2003). In all the atretic follicles, the ovum was absent, there was hypertrophy and in growth of theca cells and infiltration of connective tissue into the lumen. This could be due to lack of gonadotrophic hormone support for follicular

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growth (Roberts, 1998).

The incidence of follicular cysts was 5.41%. Lower incidence of 2.10% (Bukhan, *loc.cit*), 0.59% (Ramarao and Rajya, 1976) and 3.75% (Sharma *et al. loc.cit*) were reported earlier. Histologically, the endometrium showed glandular cystic hyperplasia in few cases. Absence of granulosa cell layer, cumulus oophorus, ovum and germinal epithelium were the characteristic histopathological features of follicular cyst was in agreement with the reports of Dwivedi and Singh (1971). These changes might be due to long-continued action of estrogen from the cystic ovaries. The incidence of luteal cysts (0.47%) in the present study was in accordance with the report of Bukhan (*loc.cit*). The incidence of cystic corpus luteum was 0.71%. Higher incidence are reported by Dwivedi and Singh (*loc.cit*) 1.0%. But Ramarao and Rajya (*loc.cit*) observed only 0.19% cystic luteum in buffaloes.

Four genitalia (0.94%) showed embedded corpus luteum in a thick stroma of cortex of the ovary. Dwivedi and Singh (*loc.cit*) and Sujatha *et al.*, (*loc.cit*) observed incidence of embedded corpus luteum in 8.24 and 4.0% of genitalia.

Ovaro-bursal adhesions were observed in six genitalia (1.41%), Bukhan (*loc.cit*), Potekar *et al.* (1982) and Sharma *et al. (loc.cit)* reported 1.87, 3.99 and 2.08% of its incidence in buffaloes respectively. All the ovaries showed lesions of oophoritis

and the degree of adhesions varied from mild to sever encapsulation.

Incidence of Folliculoid, Dermoid cyst and Granulosa cell tumour were 0.24, 0.71 and 0.24 % respectively. Folliculoids are different from granulosa cell tumour and probably relate to the precancerous stage causing repeat breeding due to hormonal imbalances (Ramarao and Rajya, *loc.cit*). The dermoids were observed only in the right ovaries. The left ovaries in all the case showed the evidence of follicular and luteal scars. So, the conception might not be affected in these cases if ovulation was normal.

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