ABSTRACT

A total number of 504 buffaloes were examined for different affections of ovaries collected from the Cantonment Board Slaughter House, Mhow (M.P). The present study indicated that out of the total buffaloes examined, 33 animals showed various pathological conditions of the ovary. Various ovarian affections observed during the present study revealed par ovarian cyst, ovarian hypoplasia, ovarian sclerosis, ovarian cysts i.e. follicular cyst and luteal cyst, embedded corpus luteum, intra follicular haemorrhage and oophoritis. Out of the total affected buffaloes, the incidence of par ovarian cyst was the highest (2.7%) followed by follicular cyst (1.78%), oophoritis (0.59%), ovarian sclerosis (0.39%), embedded corpus luteum (0.39%), ovarian hypoplasia (0.19%), luteal cyst (0.19%) and intra follicular haemorrhage (0.19%).

Keywords: buffalo, embedded corpus luteum, follicular cyst, intra follicular haemorrhage, luteal cyst, oophoritis, ovarian hypoplasia, ovarian sclerosis and par-ovarian cyst

INTRODUCTION

The buffalo is the predominant domestic animal for milk and meat production in India. On average, buffaloes are about four times as productive as average indigenous cows in India. India has the world’s best dairy buffalo breeds and provides superior buffalo germplasm to several countries of the world (Kaikini, 1992). In our country, there are 93.8 million buffaloes (Anon, 2000), which contribute to more than half of the total buffalo population (164.9 million) in the world. Recently, India has emerged as the largest milk producer in the world. In spite of the huge buffalo population, animal husbandry and dairy sectors do not provide greater percentage of total agricultural income as low productivity of buffaloes is considerably affected by the inherent problems like late maturity, poor oestrus expressiveness in the female particularly during summer, long post partum interval, diseases of genital system and infertility. The present investigation was carried out to assess the health of the female genital organs with special reference to the ovary to observe the different pathological conditions in buffaloes.

MATERIALS AND METHODS

The materials for the present study were obtained from buffaloes brought from the different parts of the Malwa region and slaughtered as a source of meat at the Cantonment Board Slaughter House, Mhow, (M.P.). The ovaries of a total of 504 buffaloes ranging from 3 to 12 years of age were examined in-situ for gross abnormalities, if any. After this the ovaries were collected, brought to the laboratory for a careful examination of
pathoanatomical abnormalities, wherever present. The ovaries were opened by frontal incision extending from free border to attached border; exposed parenchyma was examined for change in colour, nature of the fluid and alterations, if any. The observations were recorded and the affected organ was preserved in 10% formalin. After 48 to 72 h, formalin preserved tissues were washed overnight in running tap water, dehydrated in ascending grades of alcohol, cleared in benzene and embedded in paraffin wax of 60 - 62°C melting point. Sections of 4-6 micrometer thickness were cut through a Spencer’s rotary microtome and stained with H & E as per the standard procedure recommended by Lillie (1954).

RESULTS AND DISCUSSION

Out of various affections, the ovarian affections were observed in 33 cases of buffaloes. Various affections observed included ovarian hypoplasia, ovarian sclerosis, ovarian cysts i.e. follicular cyst and luteal cyst, embedded corpus luteum, intra follicular heamorrhage and oophoritis (Table1).

The ovary and uterus involved directly with regular oestrus cycle and other reproductive processes like development of pregnancy, parturition, etc. Any alteration in hormonal balance or malnutrition makes this organ more prone to subsequent development of pathological lesions in the ovary and uterus (Cohrs, 1967; Jones and Hunt, 1983).

Ovarian hypoplasia was observed in one (0.19%) buffalo and was associated with underdeveloped genitalia and this finding was in agreement with the observation of Hansen (1970). Ovarian hypoplasia need be distinguished from functional anoestrus in which the ovaries are larger, rounded having smooth surface and the genital tract better developed. Gilmore (1949); Lagerlof and Boyd (1953) pointed that gonadal hypoplasia was hereditary and caused by two recessive genetic factors.

The occurrence of sclerosed ovaries was noticed in two (0.39%) animals as also reported by Rao and Rajya (1976). During the present study such lesions were mostly seen in the abattoir animals having poor conditions and, therefore, malnutrition might have significant role to play, as also mentioned by Elwishy (1965); Rao and Rajya (1976). However, El-Sawaf and Schmidt (1963) opined that the ovarian sub activity could be due to hypofunction of the thyroid as evidenced by low blood levels of thyrotrophic hormones in buffaloes having sclerosed ovaries (Abdo, 1962; Naser et al., 1963).

The occurrence of follicular cyst was seen in nine (1.78%) cases, which corroborated with the reports of previous workers (Khan, 1970; Bhattacharya et al., 1970; Rao and Murthy, 1971 and Ohasi et al., 1984). A higher incidence of 2.83 - 7.7% was observed by El-Sawaf and Schmidt (1963); Hansen (1970) and Potekar and Deshpande (1981). Garm (1949) considered the increased production of mineralocorticoids by the zona glomerulosa of the adrenals as the main factor responsible for the development of follicular cysts.

The incidence of luteal cyst (0.19%) observed in this study, appeared almost in consonance with the observations of Saxena (1966); Khan (1970); Luktuke et al. (1973) and Rao and Rajya (1976), but contradictory with the observation of Damodaran (1956), who reported a higher incidence of 1.15%.

The occurrence of par ovarian cysts was noticed in 2.7% of the cases. The par ovarian cysts develop from the vestigial remnant of Wolffian body and are not considered to have any bearing on reproductive potential of the animal (Dawson, 1963). However, if sufficiently large in size, it can create
problem in clinical diagnosis per rectum and, thus, is important from differential diagnostic point of view.

Embedded corpus luteum was encountered in 0.39% cases. Almost similar incidence was reported by Shalash and Salama (1960) the continuous production of progesterone from such ovaries might enhance the anestrous condition in the animals.

The intra follicular haemorrhage (0.19%) encountered in this investigation was similar to the observations made by Bhattacharya et al. (1954); Damodaran (1956); Sharma et al. (1967); Rao and Rajya (1976). Chronic oophoritis was encountered in three buffaloes (0.59). These conditions have also been recorded by Bhattacharya et al. (1954) and Rao and Rajya (1976).

### REFERENCES


Garm, O. 1949. Investigation on cystic ovarian degeneration in the cow with special regard


