Prevalence of different pathological affections of uterus in buffaloes (Bubalus bubalis) in the Malwa region of Madhya Pradesh

Durgesh Mittal, U.K. Garg, Supriya Shukla and G.P. Jatav
Department of Veterinary Pathology, College of Veterinary Science & A.H., Mhow, M.P., India

ABSTRACT

A total number of 504 buffaloes were examined for different uterine affections. The present study indicated that out of the total buffaloes examined, 20 animals showed the various pathological conditions of uterus. The material was collected from Cantonment Board Slaughter House, Mhow (M.P.). Various uterine affections observed during the present study revealed perimetritis, adenomyosis hydrometra, mucometra, endometritis, pyometra, perimetritis and serositis. Out of the total affected buffaloes, the incidence of perimetritis was the highest (10.7%) followed by endometritis (7.14%), perimetrial cyst (5.35%), adenomyosis (3.57%) and pyometra (3.57%), hydrometra (1.78%), mucometra (1.78%) and serositis (1.78%).

Keywords: adenomyosis, buffalo, endometritis, hydrometra, mucometra, perimetritis, pyometra, serositis

INTRODUCTION

The buffalo is the predominant domestic animal for milk and meat production. 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 inherent problems like late maturity, poor oestrous expressiveness in the female, particularly during summer, long post partum interval, diseases of the genital system and infertility. The present investigation was carried out to assess the health of the female genital organs with special reference to the uterus to observe the different pathological conditions in buffaloes.

MATERIALS AND METHODS

The materials for the present study was obtained from buffaloes brought from different parts of the Malwa region as the source of meat slaughtered at the Cantonment Board Slaughter House, Mhow (M.P.). The uteri 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 uteri were collected, brought to the laboratory for a careful examination of pathoanatomical abnormalities, where ever present. The organ was opened by incising caudo-cranially; exposed mucous membrane 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 tissue was washed overnight in running tap water, dehydrated in ascending grades of alcohol, cleared in benzene and embedded in paraffin wax of 60°C - 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 uterine affections were more common and were observed in 20 cases of buffaloes. Various uterine affections observed included perimetritis, adenomyosis hydrometra, mucometra, endometritis, pyometra, perimetritis and serositis (Table 1).

The incidence of uterine affections was also reported in buffaloes by Dwivedi and Singh (1975) and Kumar and Singh (1985). The uterus involved directly with regular oestrous 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 lesion in ovary and uterus (Cohrs, 1967; Jones and Hunt, 1983).

Perimetrial cysts were found on the uterine surface of three buffaloes which agreed with the findings made by earlier workers (Shokeir, 1958; Sharma et al., 1967; and Rao and Rajya, 1976). These cysts appeared to have originated from the obliterated portion of Wolffian ducts, which became cystic in due course of time.

The occurrence of uterine adenomyosis in the present study was higher in comparison to the reports of Velhankar et al. (1968) and Rao and Rajya (1976). Hydrometra and mucometra were encountered in one buffalo each associated with cystic degeneration of uterine wall.

The various types of endometritis encountered in the present investigation included acute non-suppurative endometritis, chronic non-suppurative endometritis and chronic suppurative endometritis. The gross and histopathological features of different kinds of endometritis were in close agreement with the findings of the previous workers (Dwivedi, 1968; Janakiraman et al., 1976; Rao and Kotayya, 1980 and Hussain and Muniraju, 1984).

The incidence of pyometra was in consonance with the observations of Damodaran (1956), Raman and Bawa (1977), Hussain and Muniraju (1984), Kumar and Singh (1985) and Samad et al. (1987).

Table 1. Pathological conditions observed in the uteris of slaughtered female buffaloes.
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Pathological conditions</th>
<th>No. of cases</th>
<th>Percentage of individual affection, out of affected animals</th>
<th>Overall percentage out of total animals examined</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perimetrial Cyst</td>
<td>3</td>
<td>5.35</td>
<td>0.59</td>
</tr>
<tr>
<td>2</td>
<td>Adenomyosis</td>
<td>2</td>
<td>3.57</td>
<td>0.39</td>
</tr>
<tr>
<td>3</td>
<td>Hydrometra</td>
<td>1</td>
<td>1.78</td>
<td>0.19</td>
</tr>
<tr>
<td>4</td>
<td>Mucometra</td>
<td>1</td>
<td>1.78</td>
<td>0.19</td>
</tr>
<tr>
<td>5</td>
<td>Endometritis</td>
<td>4</td>
<td>7.14</td>
<td>0.79</td>
</tr>
<tr>
<td>6</td>
<td>Pyometra</td>
<td>2</td>
<td>3.57</td>
<td>0.39</td>
</tr>
<tr>
<td>7</td>
<td>Perimetritis</td>
<td>6</td>
<td>10.7</td>
<td>1.19</td>
</tr>
<tr>
<td>8</td>
<td>Serositis</td>
<td>1</td>
<td>1.78</td>
<td>0.19</td>
</tr>
</tbody>
</table>

REFERENCES


Histopathological Evaluation of Important Uterine Pathological Affections in Riverine Buffalo (Bubalus bubalis): An Abattoir Study. S.G. Chethan, S.K. Singh, M. Karikalan, N.S. Kharayat, B.K. Behera, K. Narayanan, H. Kumar and A. Anjaneya. Abstract: Infertility or sterility due to uterine pathology is one of the major reasons for culling of buffalo in India. Abattoirs serve as a good source of biological samples in order to study different pathological conditions. Major affections of uterus in buffalo include endometritis, metritis, pyometra, hydrometra, mucometra and certain congenital abnorm... Histological based diagnosis of major affections of uterus in buffalo is less and as such very few reports are available especially on hydrometra and mucometra conditions.