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Short Communication

Bilateral aplastic testes in adult buffalo bull (*Bubalus bubalis*)

A. ARANGASAMY[1], R. SINGH[2] AND L.P. SINGH[3†]

Animal Reproduction Division
Indian Veterinary Research Institute, Izatnagar - 243 122 (U.P.)

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ABSTRACT

Out of seventy male genetalia, obtained from local abattoir, one case of bilateral testicular aplasia was observed. Both the testes were absent. Though the epididymis and vas difference were intact, the former was hypertrophied as compared to control. The epididymal fluid did not show any spermatozoa on microscopical examination. On histological examination, the hypertrophied epididymis in the present case was observed due to thickened smooth muscle layers and connective tissues around the ill developed mucosa which might be due to absence of steroidal hormones.

Key words: Aplastic testes, buffalo bull

Bilateral aplastic testicular condition in cattle bull has been described by Lagerlof for the first time in 1934. Since then, there have been very few reports of this condition described in different species of animals including buffaloes (*Bubalus bubalis*) (Ohaschi *et al.*, 1995). The condition is thought to be due to involvement of an autosomal recessive gene with incomplete penetrance (Eriksson, 1950). The present report documents a case of bilateral aplastic testes in an adult non-descript buffalo bull.

During the study of epididymal fluid for protein pattern estimation from seventy genitalia of non-descript buffalo bulls, aged 4 to 5 years, slaughtered at local abattoir in Bareilly, a case of bilateral testicular aplasia having only the epididymes and the vasa deferentia intact in scrotal pouch was encountered as an incidental finding. The scrotal contents were taken out carefully. The epdidymes were found hypertrophied as compared with control (Fig. I). In addition, the epididymes also revealed a small nodule like structure at the origin of the head. The right and the left epididymes and the vas deferens were weighed and measured using physical balance and Vernier caliper. The fluid aspirated from the tail of epididymes did not show any spermatozoa on microscopic examination. Thin pieces from head, body and the tail of epididymis, and from vas deferens (near epdidymis, middle and distal segment) were collected in 10% formalin saline. These were processed conventionally using paraffin-embedding technique to obtain 4-5 micron thick tissue sections. The sections were stained routinely with haemotoxylin and eosin staining for microscopic examination.

The right epdidymis and the vas deferens together were weighed 87.91 g and the left epdidymis and the vas derens weighed 61.01 g. The length and the thickness of right and the left epididymis were measured 35.2 cm x 2.66 cm and 25.7 cm x 1.95 cm, respectively as compared with normal epididymis (Rt. 14.1 x 0.86 cm; Lt. 12.95 x 0.71cm). Whereas the right and the left vas deferens were measured 8.93cm x 1.55 cm and 8.72 cm x 1.02 cm, respectively. As compared with normal architectural details of the control epididymis (Fig. 2a), the microscopic picture of aplastic testis epididymis

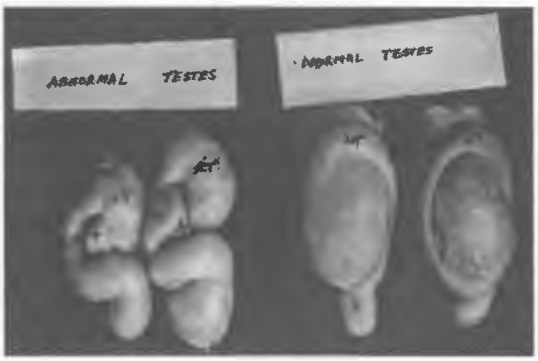

Fig.1 Bilateral aplastic testis

[1]Ph.D. Scholar
[2]Senior Scientist, Centre for Animal Disease Research and Diagnosis
[3]Senior Scientist

[†]Corresponding author

at the level of head, body and tail showed lumen lined with low columnar to cuboidal cells with no perceptible microvilli, micropinocytic invaginations and eosinophilic bodies. Pseudo-stratification with moderately tall columnar cells was seen at places. The lumen were devoid of any spermatozoa, except for little fluid. There was thick layering of smooth muscles cells and connective tissue around the ducts (Figs. 2 b). The nodular structures showed aggregates of ductules resembling sex cords. The interstitial connective tissue in between the ductules was thick and loosely arranged. These findings were in close agreement with the findings of Ohashi *et al.* (1995) who described 20 crossbred buffaloes with testicular aplasia out of 319 crossbred buffaloes examined at an abattoir. The vasa deferentia showed normal architectural details. The hypertrophied epididymis in the present case was seen due to thickened smooth muscle layers and the connective tissue around the ill developed mucosa. This could possibly due to absence of steroidal hormones that needs further exploration.

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