Hypospadias in Buffalo (*Bubalus Bubalis*) Mediterranean Breed - Case Report

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Abstarct: Hypospadias is a rare congenital condition characterized by abnormal development of the penile urethra, penis, scrotum and prepuce. The etiopathogenesis is still not fully elucidated, but it is based on a deficiency of testosterone during the critical stage of morphogenesis. At UNESP's experimental farm was born a Mediterranean breed buffalo calf with congenital abnormalities in the reproductive system, being diagnosed with hypospadias.

Keywords: Buffalo, pathology, reproductive system, male, hypospadias.

INTRODUCTION

Official statistics of buffalo's herd in Brazil are controversial and often underestimated. The creation of buffaloes world, particularly in Brazil and neighboring countries of Mercosul, has grown substantially, breaking boundaries, producing and reproducing themselves in places where other ruminant species has shown satisfactory indexes [1].

Brazil is the main creator of buffalo in America. According to studies, the buffalo herd in Brazil has increased about 12.7% per year, showing being an alternative to traditional livestock, mainly due to its high hardiness and adaptability to this country [2].

The knowledge about diseases that affect genital tract of buffalo is essential in a management focused on results. Despite buffaloes has presented considerable progress in recent years, there is still little information about the problems concerning their pathology of reproduction [3].

The reproductive disorders in buffaloes are of great economic importance, because reproductive efficiency is compromised on a permanent or temporary way. The male genital system from buffalo is very similar to bovine. Some differences are observed as the foreskin, which isn't very pendulous, doesn't form a triangular fold of skin in the abdominal region; but clings almost entirely, leaving only a small free portion of six to ten centimeters. The penis is also very similar, but slightly smaller than bovine [4].

Buffalo scrotum is not as prominent and highlighted as bull's scrotum. As a consequence, the small and limited inter-scrotal space often allows one of the testicles moves up to the proximal pole to another caudal pole, causing an asymmetrical organ appearance. The testes, although smaller, are similar to those of cattle. The vesicular glands and vas deferens ampoules are small and can be observed during soundness examination as performed in cattle [4].

Diseases in reproductive organs have varying degrees of morbidity, mortality; and suffer influences of reproductive history, previous pharmacological treatments and environmental conditions, and therefore may occur regional variations in the incidence of certain reproductive abnormalities [5, 6].

Penis and foreskin diseases may be congenital or acquired, being hypospadias a rarely congenital condition observed in buffaloes.

Hypospadias is a rare condition, happening once in every 350 births of human males [7]. The pathogenesis is not yet completely understood. The urinary system development presents a close relationship with the reproductive system and external genitalia. During pregnancy there is a differentiation of the genital tubercle and fold toward the male or female reproductive tract, according to the presence or absence of the male sex hormone [7-9].

The etiopathogenic basis of hypospadias can be characterized by a deficiency of testosterone during the critical stage of morphogenesis. Thus, in addition to hypoplasia of the corpus cavernosum, there may be abnormal development of the penile urethra, penis, scrotum and prepuce [7-9]. Some cases of hypospadias are subtle and the animals are able to reproduce, which is not recommended, because there may be a hereditary cause linked to chromosomes XX [9].

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Hypospadias can be classified in many different forms. The anatomical classification most used, especially in man, enables classify this disease in perineal hypospadias, scrotal, proximal, middle and distal shaft of the penis, subcoronal, coronal and glandular [10].

CASE REPORT

At UNESP's experimental farm exists herd of buffaloes crossbred Murrah and Mediterranean, which belongs to Faculty of Veterinary Medicine - UNESP / Botucatu. The herd lives in extensive farming and water ad libitum, where reproduction is performed by natural mating.

Among the calves born, one was highlighted by presenting anatomical changes in the reproductive tract. Upon examination, it was found the presence of vestigial penis, ventral opening of the foreskin; absence of urethral orifice, urethral fistulas and perineal scrotum, featuring a picture of hypospadias (Figures **1**, **2**).

During the development of the animal, was noted that it showed normal urination and normal defecation. The animal was removed from reproduction, and when achieved the ideal weight, has been sent to slaughter with other animals of the same batch.

Figure 1: Image of supine calf. The red arrow indicates the presence of vestigial penis and no foreskin, featuring hypospadias.

DISCUSSION AND CONCLUSION

Differential diagnoses for hypospadias include pseudohermaphroditism, true hermaphroditism; traumatic urethral fistula, penile frenulum persistent and penile hypoplasia [11].

Figure 2: Picture of the calf station. The red arrow indicates the orifice of the urethral fistula and can be observed malformation of the scrotum, typical of a hypospadias picture.

The surgery aims to correct hypospadias aesthetic and functional male genitalia. It is recommended preputial reconstruction, urethral reconstruction, penile amputation in subtotal or total for animals over the age of two months, besides the association of different surgical techniques depending on the surgeon's assessment against the case attended [7, 8, 11].

In this case no surgical intervention was performed. The animal showed normal urination and normal defecation, and its development was similar to other animals of the same age; and the batch was sent to slaughter when they reached the ideal weight.

Hypospadias is rarely observed in this species and the diagnosis of congenital abnormalities, especially in the reproductive system of livestock, is very important. It is veterinarian responsibility observe these changes and disposal animals which showing these pathologies, thus preventing the spread of disease.

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