

Dystocia due to a Dichephalus Monster Fetus in Egyptian Buffalo: A Case Report

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Abstract

The dystocia in animals is an important cause of economic loss in livestock. One of the reasons for the dystocia is fetal monstrosities. The present case describes the syndrome which called dichephalus monster. From the clinical point of view the foetus was a fully developed calf with two complete heads, four eyes, four ears, two oral cavities, a single thorax and abdomen, two fore and two hind limb. The incidence of dichephalus in Egyptian buffalo-cows reported as 0.552 % from all cases of dystocia from 2007-2016 which represented into clinical veterinary hospital, Faculty of Veterinary Medicine, Assiut University, Egypt. This case caused dystocia in Egyptian cow which solved by cesarean section.

Introduction

Breeding programs designs to obtain healthy animals with good morphology and high production, it is not uncommon for animals to be born showing congenital. The occurrence of congenital malformations, above all when due to gene variants passed down by parents, in livestock production, causes the slowing of genetic progress, economic loss for the breeders due to the death of animals, or damage to their reproductive and productive ability, such as milk production [1]. Anomalies occurring due to congenital defects often lead to dystocia. Economic losses associated with dystocia have severe consequences in dairy herds due to an increased number of still birth, maternal injury and calf mortality [2].

Fetuses with congenital defects are dead at birth. It may be difficult for monsters to pass through the birth canal, either because of their altered shape or because of their relative size. Dystocia due to monsters is usually relieved by cesarean section since fetotomy is of limited usefulness except in a few monsters [3]. Dystocia due to dichephalus monostomus in a crossbred cow has been also reported by Nakhashi et al., [4]. Duplication of cranial part of the fetus is more common than of the caudal parts [5].

Polycephaly is a congenital malformation in which an individual with two (dichephaly) or more heads, probably due to partial or total union of two developing embryos or to a partial duplication of a body, or to the anteroposterior compression of the embryonic disk [6]. Major congenital anomalies are diagnosed in 2-4% of births [7]. However, Aiello [8] reported that the incidence of congenital defects in calves ranges from 2-3.5%.

Case history and Clinical observation

From case history and clinical observations, a pluriparus full term dairy buffalo-cow in its third parity and full term pregnancy with history of dystocia brought to clinical veterinary hospital, Faculty of Veterinary Medicine, Assiut University, Egypt, with history of straining since last 8 hours with fetal forelimbs were protruded from vulva. Vulva was edematous and vaginal mucus membrane was dry and congested. On general inspection animal was active; with strong labour pains and perineal region was swollen due to excessive traction. The case was unsuccessfully handled by a local veterinarian.

During manual obstetrical examination, vaginal examination revealed the complete dilated birth canal with a foetus in anterior longitudinal presentation and dorso-pubic position. The head was found to be laterally deviated, while an extra head was palpated below the pelvic brim inside the uterus. Palpation of the foetus revealed absence of reflexes suggestive of dead foetus with ankylosis in limbs (Figure 1). The condition was diagnosed as double headed fetal monster causing dystocia; hence it was decided to perform caesarean section.



Figure 1: Double headed fetal monster with Ankylosis in lim.



Figure 2: Buffalo calf dicephalus fused at caudal part and continued with single cervical vertebrae.



Figure 3: Each head of dicephalus buffalo calf have separate nostrils, two eyes and two ears.

Treatment and Discussion

In this study, under local and high caudal epidural anaesthesia, caesarean-section was performed on the left flank region, adopting the standard operating procedure and the buffalo-cow was positioned at standing condition. The calf was healthy and big in size. The fetous had two heads (dicephalus), each head was having separate nostrils, two eyes (tetraophthalmus) and two ears (Figure 2). The heads had two atlas bones (biatlanticus) free from each other but fused at caudal part and continued with single cervical vertebrae (Figure 3). Both the limbs were stiff, with ankylosed joints. Ankylosis was mainly observed near the hock joint of both hind limbs.

In this study, the incidence of dicephalus in Egyptian buffalo-cows reported as 0.552 % from all cases of dystocia from 2007-2016 which represented into clinical veterinary hospital, Faculty of Veterinary Medicine, Assiut University, Egypt. However, according to fetal causes of these cases, this incidence became 0.906%. Congenital defects may be defined as any defect in the foetus present at birth which commonly diagnosed by veterinary practitioners. The incidence and types of congenital defects are highly variable depending primarily on the number and types of cases submitted to veterinary faculties from those actually occurring on farms and field and observed by veterinary practitioners, which are not submitted [9].

Similar observations were recorded by Albarella et al., [10] who reported that a dicephalic derodymus buffalo calf which characterized by complete duplication of cranial structures (two muzzles, four eyes, and four ears) was born dead after a dystocia calving. The obtained record is agreement with that reported by Sharma, et al., [11], Kumar, et al., [12] and Mehmood, et al., [13] who reported that in buffaloes several cases of duplication of the head with different characteristics have been reported as well as, dicephalus monsters characterized by two full developed heads of similar size fused at the level of atlas.

Finally, attribute this rate of dicephalus monsters in our study to the congenital abnormalities may cause by genetic or as a possible outcome of community exposure to environmental pollution [7] or by interaction of both [14]. Generally, the exposure to a mixture of environmental pollution (air, water and feeding) has become a major cause of reproductive animal failure [15]. From the economical points of view, a precautionary approach should be adopted at both community and individual level. In order to prevent congenital anomalies in animals, one must reduce exposure to potential environmental pollution before pregnancy is recognized.

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