Pakistan J. Zool., vol. 52(6), pp 2413-2414, 2020 **DOI**: https://dx.doi.org/10.17582/journal.pjz/20170703140704

Short Communication

An Unusal Case of Hydramnios in Nili Ravi Buffalo

Shahid Ali*, Aijaz Ali Channa, Waqar Ahmad, Rafia Akram and Imbasat Yousaf

Department of Theriogenology, Faculty of Veterinary Sciences, Univeristy of Veterinary and Animal Sciences, Lahore

ABSTRACT

Hydramnios was successfully managed in a full term pluriparous Nili Ravi buffalo *(Bubalus bubalis)* that was recumbent and under extreme stress because of intemperate bilateral abdominal distension. Trans-rectal palpation revealed a taut uterus (bulged, tense and inelastic) and alive fetus. Subsequently upon induced cervical dilatation, 60-70 L of amniotic liquid was expelled out and dam delivered completely developed alive male calf with a gross anomaly (presence of a hole in the skull) which could not survive and died soon after the delivery. After the completion of obstetrical case using obstetrical mutation and forced extraction, dam developed the signs of peritonitis, subcutaneous edema and labored breathing.

Article Information
Received 03 July 2017
Revised 22 May 2018
Accepted 01 August 2018
Available online 09 October 2020

Authors' Contributions
SA and AAC managed the case and compiled the report. WH evaluated the data. RK and IY assisted during handling the case.

Key words
Hydramnios, Anomaly, Buffalo.

Bovine placental hydropic conditions hydroallantois and hydramnios are estimated to occur in 1 % out of 7500 pregnancies (Jackson, 1995). Hydramnios occurs in 5 to 10 % cases of uterine dropsy. In hydrops of amnion, abdominal enlargement develops slowly over weeks and months (Roberts, 2004). Moreover, the incidence of hydramnios is 9 to 15 times less than hydroallantois (Jackson, 1995; Drost, 2007). Normally, amniotic fluid is secreted by the fetal salivary glands, lungs, skin and associated structures and the volume is regulated through swallowing by the fetus (Zdunczyk and Grunert, 1999). Hydramnios is primarily the result of fetal anomalies, whereas the placenta is normal, and is characterized by the gradual accumulation of amniotic fluid during the last half of pregnancy (Drost, 2007). Excessive accumulation of amniotic fluid can go up to ~25 L (normal volume of amniotic fluid near term is 3-5 L), adverse sequel are rare due to gradual onset and the nature of the disease. Prognosis is fair to good for life and fertility of the dam (Roberts, 2004; Chung *et al*., 2019). The current case reports an unusual case of hydramnios in a Nili Ravi buffalo (*Bubalus bubalis*).

Case history and clinical examination

A full term local pluriparous Nili Ravi buffalo having body condition score 2.5 (1-5), weighing 350 kg presented at Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, Punjab, Pakistan (31°32′N latitude, 74°20′E longitude). Animal was 6 years old and having 3rd parity and the last month of gestation (10 month) was completed. In earlier two calving there was normal parturition, without any complication. The owner felt abdominal enlargement, straining and calving like symptoms and call in a local veterinarian. He diagnosed it as twins or fetal hydrops.

Due to prolonged straining, the dam was exhausted and ventral recumbent at the time of examination. Vulva was swollen. Bilateral abdominal distension with pear shape abdomen, increased respiration rate 50/min, pulse rate 70/min, loss of body condition 2.5, feeding and drinking was compromised as well. Rectal temperature was subnormal (97°F). Vaginal examination revealed closed cervix. On rectal palpation livability of the fetus was confirmed with speedy movement and plenty of fluids above than normal.

Obstetrical procedure and treatment

Owner requested for induction of parturition. Before proceeding for the obstetrical procedure, the animal was stabilized by dextrose 10%, D-gluconic acid cyclic 4,5 ester with boric acid calcium salt 1ml/kg and multivitamins. After 1 h, temperature was 97.6°F and cervix was closed. After 2 h, cloprostenol sodium 0.5 mg /kg along with stilboestrol dipropionate 25mg were injected. After 3 h, 1st ring of cervix started to open and temperature was 98°F. After 5, h 2nd ring started to open and we injected dextrose 10% at that time. After 7 h, 3rd ring started to open. On the next day after 19 h, animal was examined and found stable.

* Corresponding author: shahidalivet786@gmail.com
0030-9923/2020/0006-2413 $ 9.00/0

After 22 h, all the cervical rings were opened, obstetrical procedure was started to resolve the case. Plenty of liquid paraffin was used, calf was alive that was confirmed by fetal reflexes like suckling and pedal reflex. Calf was in anterior longitudinal presentation, dorsopubic position and severely laterally deviated head. Head was secured by appling the chain at lower mandible, repelled the calf in birth canal simultaneously traction was applied on chain to correct the position of the head. Now applied the chain at fetlock region of both forelimbs. Final traction was applied to expel the calf. During proceeding of case 60 L mucoid fluid having specific gravity 1.02 expelled by the mother. The alive calf was delivered but having gross anomaly in skull, but could not survive and died soon after the delivery within half an hour. The calf had prominent heartbeat. After completion of case, animal developed the signs of labored breathing, peritonitis, subcutaneous edema and ascites. This was treated by amoxicillin trihydrate 11-22 mg/kg, furosemide 2-4.84 mg/kg and phenoxy-2 methyl-2 propionic acid 10 mg /kg. Animal was normal after 9 h of successfully delivery of calf. Continued the treatment for next five days.

Discussion

Hydramnios is a congenital defect due to recessive gene (Leipold and Dennis, 1986). The fetal malformations is usually associated with hydramnios. Amniotic fluid is controlled by fetal deglutition and any malformation (anencephaly, schistosoma and chondrodystrophy) prevents fetus from swallowing the fluid can develop hydramnios (Sloss and Dufty, 1980). The fetal head anomalies seen in the present case can also be the cause of hydramnios. This condition is usually associated with certain cranial abnormalities of the fetus especially cleft palate which lead to impaired swallowing, causing amniotic fluid to accumulate as pregnancy progresses. In fact, hydramnios may also occurs consequent to other coincidental abnormalities (atresia of esophagus, pituitary hypoplasia, and anencephaly) in which cerebrospinal fluid accumulates leading to impaired swallowing (Jackson, 1995). Dropsical condition of the uterus occasionally develops the fetal ascites, which may become the causes of dystocia (Jackson, 1995). The dam delivered the alive fetus with the gross anomaly (hole in the skull) which died after sometime, plenty of mucoid discharge (60 L) having specific gravity 1.02 finally diagnosed the case as hydramnios. Dam was treated with amoxicillin trihydrate 11-22mg/kg, 4-chloro-N-furfuryl-5-sulfamoylanthranilic acid 2.5 to 5 mg/kg and phenoxy-2 methyl-2 propionic acid 1gm to prevent complications of peritonitis, ascities and subcutaneous edema, respectively.

Statement of conflict of interest

Authors have declared no conflict of interest.

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