DYSTOCIA IN CATTLE DUE TO FETAL HYDROCEPHALUS

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ABSTRACT

A case of dystocia in non-descript cow due to hydrocephalus fetus was reported. Dead fetus was delivered by caesarean section using local and high caudal epidural anaesthesia by adopting the standard operating procedure.

Key words: Cow, Non Descript, Dystocia, Fetal hydrocephalus, Caesarean section

INTRODUCTION

Dropsical conditions are divided in to placental origin and fetal origin viz,. fetal dropsical conditions like hydrocephalus, ascites, hydrothorax and anasarca (Purohit *et. al.,* 2012). Hydrocephalus is accumulation of fluid as a result of an imbalance between the formation and drainage of cerebrospinal fluid (CSF) either in ventricular system or subarachnoid space characterized by marked enlargement of cranium (Purohit *et. al.,* 2006). It results in dystocia and the foetuses are delivered either by excision of head followed by traction or through caesarean section. Hydrocephalus can be of two type, internal hydrocephalus and external hydrocephalus. Internal hydrocephalus is the collection of fluid in the cerebral ventricles, whereas external hydrocephalus is the collection of fluid outside the brain substance. Mostly death of fetus occurs due to the pressure on vital centres of brain (Purohit *et. al.,* 2012).

CASE HISTORY AND OBSERVATIONS

A pluriparus full term nondescript cattle of about six year of age, in its third parity was presented to the Teaching Veterinary Clinical Complex, Tirupati with a history of dystocia. Animal was showing signs of straining since previous day evening, the water bag ruptured and it fails to make any progress towards delivery. During manual obstetrical examination, the cervix was open with foetus in anterior longitudinal presentation, dorso-sacral position. It also revealed the presence of 'hydrocephalus' condition in fetus, having excessive swelling over the head. Palpation of the foetus revealed absence of reflexes suggestive of dead foetus. On the basis of clinical observations, the case was tentatively diagnosed as dystocia due to foetal hydrocephalus.

TREATMENT AND DISCUSSION

To manage this dystocia, it was decided to perform caesarean section after stabilising the animal with fluids. Under local and high caudal epidural anaesthesia, caesarean-section was performed on the left flank region, adopting the standard operating procedure. Congenital hydrocephalus is present at birth and may be caused by either environmental influence during fetal development or genetic predisposition. In cattle congenital hydrocephalus may be caused by simple autosomal recessive gene with incomplete penetrance. Acquired Hydrocephalus can also happen due to infection, trauma or because of nutritional causes (Shamra et al., 2019).

In the present case the condition was grossly diagnosed as Hydrocephalus after delivery by caesarean section. The swelling was hanging over the head and on cutting out, it was found to be in the sub arachnoid space; hence the case was confirmed as external hydrocephalus. The enlarged head (Fig. 1) cannot easily pass through the birth canal and resulted in dystocia. There are even reports of live birth presented later for therapy of the hydrocephalus condition in the calf (Shamra et al., 2019).

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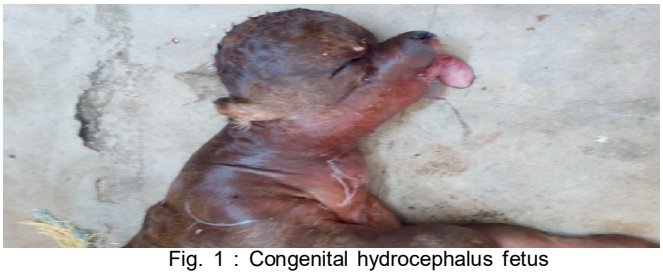

Fig. 1 : Congenital hydrocephalus fetus

BRIEF REPORT ON THE XXXV ANNUAL CONVENTION OF THE INDIAN SOCIETY FOR STUDY OF ANIMAL REPRODUCTION (ISSAR) AND INTERNATIONAL SYMPOSIUM ON

"GLOBAL PERSPECTIVES TO ENHANCE LIVESTOCK FERTILITY THROUGH MODERN REPRODUCTIVE TECHNIQUES FOR DOUBLING FARMER'S INCOME"

December 18 to 20, 2019.

The Department of Veterinary Gynaecology and Obstetrics, VCRI, Namakkal organized the XXXV Annual Convention of The Indian Society for Study of Animal Reproduction (ISSAR) and International symposium on *"Global perspectives to enhance livestock fertility through modern reproductive techniques for doubling farmer's income"* from 18th to 20th December 2019. Dr.C.Balachandran, Honorable Vice-Chancellor, TANUVAS, inaugurated the programme on 18.12.2019 and he emphasized about the need for enhancement of livestock fertility for doubling the farmer's income. Dr. Suresh S Honnappagol, Former Vice-Chancellor, KVAFSU, Karnataka has delivered the special address. Dr.B.Mohan, Dean, VCRI, Namakkal, Dr.S.Balasubramanian, Director of Clinics, TANUVAS, Dr.V.Chandrashekaramurthy, President ISSAR and Dr. Shiv Prasad, General Secretary ISSAR delivered the felicitation address. Dr.M.Selvaraju, Organizing Secretary and Professor and Head, Dept. of VGO welcomed the gathering and Dr.R.Ezakial Napolean, Co-organizing Secretary and Professor and Head, Department of Clinics proposed the vote of thanks. A total of 24 invited papersand 321 research abstracts were presented. A total of 324 Research Scientists, faculties and students participated in this symposium from more than 24 states of India and 4 foreign delegates which includes Dr.Lionel J Dawsn, USA, Dr.Ram Kasimanickam, USA, Dr. Rajesh Duggavathi, Canada and Dr. Firdous Khan, Grenada, West Indies. Ten retired professors from all over the country participated to share their experiences. Conference was concluded after valedictory function on 20.12.2019.

Recommendations of the International Symposium

The deliberations in the Symposium and conference were very fruitful with emergence of several useful Recommendations/Action Points for scientific community, Academicians, Stakeholders, Policy makers and Govt agencies. These were as follows:

- ✓ The application of estrus synchronization / controlled breeding / induction of estrus technology is highly relevant under Indian rural conditions.
- ✓ Exogenous control of follicle wave emergence to initiate super stimulatory treatments for follicle recruitment and for application in embryo transfer technology.
- ✓ Expand the cooperative protocols of milk federations and link all producers in a given area to manage non-cash producing components of dairy production such as rearing calves, dry cows, feed holding facility similar to 'milk collection' centers.
- ✓ Establishment of breed wise average pelvic size in a herd for optimum productivity. A general rule is 0.25 to 0.27 cm^2 growth per day from 1 to 2 years of age.
- ✓ Androstenedione immunization can be successfully used as a tool to increase the fecundity rate and profit in sheep and goat industry. The introgression of FecB allele in non-prolific breed with higher bodyweight can significantly increase the productivity of sheep industry.
- ✓ Provision of adequate nutrition for optimal reproductive capability and to reduce susceptibility to disease and parasitism.
- ✓ The clinical management of dogs presented for mismating treatment requires an understanding of termination protocols and the expected side effects.
- ✓ The understanding of specific and general adverse effects of various reproductive hormones in canines and felines is crucial in managing clinical situations and avoiding possible side effects to the greatest extent possible.
- ✓ Correct evaluation of basic semen trait analysis is imperative when used as a diagnostic tool in classifying bull fertility. To achieve better consistency it is necessary to have a high level of intra- and inter-evaluator and inter-laboratory agreement for all semen traits.
- ✓ The search for effective predictors of bull fertility is the need of the hour and the identification of suitable biomolecules would greatly benefit the dairy industry against the declining fertility.