

Maternal Dystocia In Buffalo: Incidence, Causes And Treatment

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<https://doi.org/10.5281/zenodo.8096894>

Introduction

Buffalos face a number of reproductive challenges that often lead to low productivity and reproductive capacity. Maternal dystocia is one of the common disorders among buffalos that disturb the normal process of birth. The process of giving birth is comparatively easy in animals with large pelvic areas. Buffaloes, even in comparison to cows, have a narrower and shorter cervix. Also, they have a small vagina with wider vulvar lips. Buffaloes usually have a gestation period of 305-340 days; however, the time period varies from species to species.

What do you understand by Maternal Dystocia?



The term “Dystocia” is mainly used for a difficult or obstructed birth. It is of mainly three types; maternal, placental, and fetal. In Maternal Dystocia, the baby’s delivery gets blocked despite

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normal uterus contraction. In other words, it is delayed and tough calving and requires human support in most cases. Maternal dystocia also includes complications where the baby fails to get sufficient oxygen. Furthermore, it makes the mother vulnerable to several infections along with uterine rupture. The most common species that suffer from dystocia are bovines. They experience difficult birthing due to functional defects or physical hindrances.

Incidence of Maternal Dystocia

The incident of maternal dystocia in buffalo, of course, varies across different regions of the world, including India. However, the incidence of uterine torsion, being one of the major causes of Maternal Dystocia, has been found to be higher in buffaloes. According to the study, the incidence is as high as 70%. In India and Pakistan, the cases of maternal dystocia have been seen more in dairy-type buffaloes.

Furthermore, the average incidence of cervical dystocia was reported to be around 5% in both buffaloes and cows. And in the case of pelvic deformities, it has been reported to be around 1% in buffaloes, according to Mishra, 2021.

What are the major causes?

In buffaloes, maternal causes were found to be more prevalent (75%) than fetal causes (21%), and there are primarily two causes of Maternal Dystocia:

1. Birth canal obstruction
2. Failure of the expulsive forces

Birth canal obstruction

Birth canal obstruction can occur for a variety of reasons, as detailed below:

- Pelvic abnormalities: Small-sized or tight pelvic regions can lead to maternal dystocia. Apart from this, any deformity in the pelvic region or vaginal hypoplasia can also cause dystocia-like issues. In many cases, buffaloes having pelvic fractures are subjected to breeding, which can also lead to a reduced pelvis and further lead to dystocia.

When small-sized cattle or buffaloes are crossbred with larger-sized breeds, there is a potential risk of obstructing larger-sized foetuses within the small-sized pelvis of the mother a less common factor contributing to a narrow pelvic opening is sacral luxation or displacement. In addition, twins and intra-pelvic haemorrhage are also mentioned as possible causes of dystocia; conversely, pelvic fractures and exostoses are considered infrequent causes of difficult labour in larger animals.



- **Uterine Torsion:** It is one of the chief disorders affecting buffalo, especially when the mother is nearing birth. Uterine torsion has been found to be responsible for more than 53% of cases of maternal dystocia. Basically, torsion is the uterus twisting on its axis. Whether uterine torsion occurs during pregnancy or parturition, complications of maternal dystocia are there in buffaloes as well as in cows. Uterine torsion, being the key reason for maternal dystocia, can lead to the foetus and the mother's death if left untreated. This way, the death rate highly affects dairy production and economic profit. However, the most typical therapy for buffaloes suffering from maternal dystocia is caesarean section.
- **Vulva, Vagina, and Uterine Neoplasms:** In the reproductive region, sometimes buffalo suffer from abnormal tissue growths called tumours. These tumours can result in maternal dystocia that hinders or obstructs the process of normal childbirth. The growth of neoplasms basically results in the obstruction of the birth canal. They occupy space in the reproductive region and narrow down the passage for the baby to pass during the time of delivery. However, the effect of these tumours varies according to the tumour size.

Failure of the expulsive forces

The circumstances in which normal uterine contractions occur during labour are not enough or inadequate to move the baby's delivery. This can result in maternal dystocia, which is defined as prolonged or obstructed labour. The incapacity of the expulsive forces can be caused by distinct variables, for example, primary & secondary uterine inertia, as well as uterine rupture. The primary and secondary uterine inertia has been discussed:

- **Primary Uterine Inertia:** It takes place when the uterus fails to contract with enough force rate to push it out through the delivery canal. This medical issue is common during the initial phases of labour and may be triggered by hormonal disorders, insufficient cervical dilation, or extreme tiredness. Primary uterine inertia can cause labour to be delayed or stopped.
- **Secondary Uterine Inertia:** It is commonly termed secondary uterine atony and actually is the lack of viable and frequent uterine contractions, which is usually followed by an episode of normal labour progression. This syndrome can develop right through the active phase of labour and is frequently connected with conditions like maternal weariness, water loss, drowsiness, or the existence of maternal or foetus well-being issues. Secondary uterine inertia can cause a stop in labour progression.



What are the possible treatments of Maternal Dystocia?



Cases of maternal dystocia in buffalos can't be overlooked and should be treated on an urgent basis. It is crucial to carefully evaluate the patient's condition before taking any interventions. In buffaloes, the treatment involves both manual and medical interventions.

- **C-Section:** It is basically the ultimate solution to maternal dystocia when other treatments don't work out. This particular intervention involves an incision in the buffalo's uterus and abdomen, and this incision process is followed by the baby's delivery. Usually, a caesarean or C-section becomes necessary in serious conditions of maternal dystocia.
- **Medical management:** This is done to regulate and stimulate contractions in the uterus. This can include the use of Betnesol, Progyonon, Epidosin, and pragma for cervical dilation. The whole process may take 12-72 hours to complete. Basically, medical management is done to promote easy labour progression.
- **Manual effort and support:** If the medical management fails or doesn't seem much effective, manual techniques are practiced to assist the delivery process. To be specific, in manual support, repositioning and manipulation of the mother's baby is done to ease birthing and constriction.



- **Obstetric manipulations:** When the foetus is in an abnormal position during childbirth, it can impede the delivery process. Obstetric manipulations may include repositioning the calf or correcting malpresentation to facilitate a more comfortable birth. A twisted calf's neck or limb, for instance, can cause an obstruction in the birth canal.

In such cases, the experts may gently move the fetus to correct its position, properly aligning the neck or limbs to allow for a more straightforward delivery. Correcting malpresentation or repositioning the calf requires skill and expertise and is typically performed by obstetricians or experienced veterinary professionals.

To sum up

When buffalo mothers experience dystocia during childbirth, it is often attributed to factors unique to them - such as uterine torsion or other potential issues that may arise. Despite this being common knowledge for most livestock owners & caretakers' alike - we must emphasize that adopting good care practices among buffalo herds goes a long way in reducing risks associated with foaling. By upholding proper husbandry methods coupled with timely medical interventions before giving birth - including adequate feeds rich in nutrients & minerals for both mother & calf. Routine check-ups- we maximize the chances of successful birthing processes while reducing the likelihood of dystocia incidents happening.

Furthermore, prompt diagnosis and intervention by experienced veterinary professionals are critical in the management of maternal dystocia in buffaloes. Diagnostic techniques and obstetric manipulations, such as repositioning the calf or correcting malpresentation, can aid in the resolution of complications and the facilitation of successful deliveries. To ensure successful outcomes, buffalo breeders and farmers should prioritize education and training in proper animal management practices. This includes gaining knowledge about the signs and risk factors associated with maternal dystocia, as well as implementing preventive measures to minimize its occurrence.

On the whole, maternal dystocia in buffaloes, often caused by uterine torsion and other maternal factors, can be effectively managed and minimized through the application of good managerial practices. By implementing proper nutrition, regular veterinary care, and prompt intervention, when necessary, breeders and farmers can enhance the well-being of their animals and promote successful births, reducing the risks associated with maternal dystocia.



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