Short Communication

Incidence, Diagnosis and Treatment of Atresia Ani at Landmark University

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Abstract | Atresia ani has become a major clinical disease in Livestock especially pigs, cattle and small ruminants. It is a condition which do not often occur but requires a dogged approach in treating affected animals. Atresia ani is a congenital embryological condition that often suffice when the hindgut refuses to connect with the perineum for the proper discharge of muconium. In this study, a three-day-old calf was observed to be suffering from Atresia ani at the Landmark University Teaching and Research farm. This condition was obvious due to the inability of the calf to pass out faeces since parturition. The calf was operated on using standard clinical and surgical practices and also putting into consideration the Animal Welfare principles. The result from the surgical procedure showed that there was a massive improvement in defecation and general performance of the calf after the third day. Furthermore, there was no complication reported in the calf after fifteen days (15) of the procedure. This result shows that Atresia ani can be properly managed at the Landmark University Teaching and Research farm. This affirms the ability of the Institution to promote standard practices in Livestock Production Management.

Keywords | Atresia ani, Calf, Livestock. Clinical, Production

Received | October 28, 2021; **Accepted** | February 10, 2022; **Published** | April 15, 2022
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Citation | Shoyombo AJ, Alabi OO, Falana BM, Animashaun RA, Olawoye OO, Okenniyi FA, Ogheneochuko MO, Adesina BT, Okocha RC (2022). Incidence, diagnosis and treatment of Atresia Ani at Landmark University. Adv. Anim. Vet. Sci. 10(5): 1110-1112.
DOI | http://dx.doi.org/10.17582/journal.aavs/2022/10.5.1110.1112
ISSN (Online) | 2307-8316

INTRODUCTION

One of the congenital abnormalities in all animal species, most especially domestic mammals such as cattle, pigs and small ruminants is intestinal atresia, (Van der Gass and Tibboel, 1980). Atresia ani is a congenital embryological disorder that results from the failure of the hindgut to connect with the perineum for discharge of muconium, (Gary, 2010). The congenital disorder of the rectum and anus are typically common in young animals where the anus could either be stenotic or imperforated (Nixon, 1972; Dreyfuss and Tulleners, 1989; Ansari, 2005; Gary, 2010). Different surgical interventions have been reported by several scholars with respect to correction of atresia ani in domestic mammals (Singh, 1983; Jubb et al., 1993), while some scholars reported euthanasia of the animal because of risk of survival.

This report speaks of atresia ani, a case in a male calf, which was treated successfully by surgical procedures in Landmark University Teaching and Research Farm, Omu-Aran, Kwara State, Nigeria.

A three days old bull calf of white Fulani breed was observed at Landmark University Teaching and Research farm with absence of non-passage of faeces since parturition resulting

to restlessness, slight abdominal distension and partial anorexia of the bull calf. On clinical diagnosis, it was revealed that the animal has imperforated anus (Figure 1).

Figure 1: Animal with imperforated anus.

It was observed that below the ischium, there was soft subcutaneous swelling, and distension of the abdomen. Anxiety and abdominal pain were also observed which are symptoms of tenesmus. Atresia ani, a very common condition in young animals, was diagnosed and the surgical correction was scheduled.

The calf was restrained in the lateral recumbency with its hind quarter raised high on a table. The calf was prepared for aseptic surgery by making ready the perineal region below the base of the tail. A 2 % lignocaine hydrochloride injection was used to perform local infiltration anaesthesia at the anticipated incision site. On the protrusion of the anus, a circular incision was made and a circular piece of incised skin was excised. Muconium was instantly ejected (Figure 2).

Figure 2: Ejection of muconium from animal.

The aperture was kept open by using interrupted sutures made of black braided silk between the rectal mucosa and the skin to create a permanent anal orifice (Figure 3).

Figure 3: Creation of permanent anal orifice in animal.

To remove that patent urachus, we surgically opened the umbilical cord and identified the urachus. After properly holding the urachus, ligation was done at two points with catgut no. 2 and 2 ml of phenyl was instilled into the urachus to enhance the removal of the urachus immediately (Figure 4).

Figure 4: Surgical removal of the urachus.

Post-operatively, liquid povidone iodine and ointment acrillin were regularly used to clean and dress the surgical wound at both sites. This was applied daily until recovery which lasted for about two (2) weeks. Likewise, injection gentamycin 3 ml was given by intramuscular route daily for 5 days. A 5-days antibiotic therapy was followed. On the tenth day post-surgery, the sutures were removed.

On the third day of surgery, a marked improvement was observed in the calf relative to defecation and general behaviour. Also, there were no complications after 15 days of the medical procedure. In literature, similar findings were observed in calves by Steenhaun et al. (1976) and Nagaraja et al. (2001). The present situation of atresia ani involved rectum, so therefore, the medical condition was named atresia ani et recti. Most of the calves affected will likely stand to suckle normally after parturition. Clinical signs may appear anywhere from 1 to 3 days after infection. One of the biggest observations during the collection of history was that the calf didn't pass muconium or faeces. The most clinical observations of the condition were

anorexia, depression, tenesmus, colic, and severe straining, along with distention of the abdomen. It is frequently used as a presumptive diagnosis based on findings of physical examination, medical history, and age. The lack of an anal opening may be visualized during visual inspection of the perineal region, or through the use of a non-invasive digital probe in the presence of a vestigial anal opening. In this present case, surgical intervention was only done to treat the abdomen's current condition, and it was successful.

NOVELTY STATEMENT

This research is the first of its kind to successfully diagnose and treat atresia ani at Landmark University. This has given insight into the effective management of atresia ani in animal production.

AUTHOR'S CONTRIBUTION

Conceptualization: A.J. Shoyombo; Methodology: O. O. Alabi, A.J. Shoyombo; Writing - original draft: B.M.Falana and R. A. Animashahun, Writing - Review and Editing: O.O. Olawoye, F.A. Okeniyi, M.A. Popoola; Funding: C.I. Ukim, A.E. Jubril, A.M. Ake.

Conflict of interest

The authors have declared no conflict of interest.

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