

## Atresia Ani along with Hamartoma in a Calf

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### Abstract

A three day old male Holstein Friesian calf was presented with history of anorexia and not voiding meconium since birth. Clinical examination revealed imperforate ani with the presence of two pedunculated masses distal to it. Surgical correction was resorted to. A circular incision of the skin was made on the bulged part and the cul-de-sac was exteriorized and the patency was established. The two pedunculated masses were then excised after ligation at its base. Histopathological examination of the excised mass revealed hamartoma.

### Introduction

Atresia ani (imperforated anus), is a congenital abnormality characterized by persistence of the anal membrane, resulting in a thin membrane covering the normal anal canal. It is due to autosomal recessive gene and most frequently encountered in calves and pigs. (Noden and Lahunta, 1985). Hamartoma is a benign tumor-like nodule composed of an overgrowth of mature cells and tissues normally present in the affected part, but with disorganization and often with one

element predominating. Congenital anomalies have been estimated to occur in calves from 0.2% to 5% (Leipold *et al.*, 1972). It may be caused by genetic or environmental factors or a combination of both and in many cases the causes are unknown (Johnson *et al.*, 1985). Congenital malformation sometimes leads to perinatal mortality and it may also decrease maternal productivity and reduce the value of the defective neonates. Severe defects result in abortion of the foetus or a calf death causing economic loss to the owners (Saperstein, 1993). This paper discusses the successful surgical management of atresia ani with hamartoma in a calf.

### History and Diagnosis

A three day old Holstein Friesian male calf was presented with the history of anorexia and not voiding meconium since birth. Clinical examination revealed imperforate ani with the presence of two pedunculated masses distal to it (Fig. 1). On abdominal compression, the animal developed a bulge at the perineal area. Surgical correction was resorted to.

### Treatment and Discussion

Perineal area was aseptically prepared and epidural analgesia was administered using 2% Lignocaine Hcl. The calf was positioned in ventral recumbency with raised pelvis. Then the abdomen was compressed and a bulge at the anal area was noticed. A circular incision of the skin was made on the bulged part and the cul-de-sac was exteriorized. The patency was established and the meconium and gas were voided. The rectal wall was sutured circumferentially along with the skin using 1-0 braided silk in simple interrupted pattern. The two pedunculated masses were then excised after ligation at its base. Histopathological examination of the mass revealed irregularly formed fibrovascular connective tissue along with



Fig. 1: Atresia ani with hamartoma

adipocytes and blood vessels indicating hamartoma.

The most common bovine environmental teratogens include toxic plants consumed by the dam and maternal-fetal viral infections during gestation. Atresia ani is most frequently seen in males (Merei *et al.*, 2001). Affected calves initially stand and suckle milk normally after birth. The time to onset of clinical signs may vary from 1 to 3 days. In the present case, calf was presented on third day after birth. The principal clinical signs are depression, anorexia, and abdominal distention. Atresia ani can be diagnosed by visual inspection of the perineal region or by limited digital palpation. Calves with atresia ani should be examined closely for other congenital abnormalities. Surgical treatment is the only course of action and its success depends on the extent of rectal development (Roberts, 1971). Survival rate is influenced by the severity of the condition, early recognition and successful surgical establishment of the defect (Dreyfuss and Tulleners, 1989). If the animal having multiple deformities its future breeding should be avoided (Kiliç and Sarierler, 2004).

Hamartoma is a benign focal malformation that resembles a neoplasm in the tissue of its origin. This is not a malignant tumor and occurs in many different parts of the body. It can cause problems due to their location. When located on the skin, especially the face or neck, they can be extremely disfiguring. It may be sporadic or an autosomal dominant but it is probably due to the absence of suppressor gene.

The easiest way to prevent recessive gene is to test the bull before using for breeding. The most

effective method is, first reducing the incidence of the phenotypic expression of the lethal and later practically eliminating it. This could be accomplished through a combination of progeny testing, particularly of sires and avoid inbreeding. All the young ones should be examined thoroughly after birth, particularly for atresia ani, surgical reconstruction should be done as early as possible, but the breeding of these animals should be avoided.

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